

The Vermont Reptile and Amphibian Atlas



Ring-necked Snake, photo by Kiley Briggs

2013 Update

James S. Andrews

with the help of over 5,000 volunteers and cooperating organizations

Cartography by Kiley Briggs

Funded by: the Lintilhac Foundation, the Norcross Wildlife Foundation, the Vermont Fish and Wildlife Department, and the Vermont Monitoring Cooperative.



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Reference Citation

Andrews, J. S. 2013 Update. The Vermont Reptile and Amphibian Atlas. James S. Andrews, Middlebury, Vermont.

Published by James S. Andrews
Middlebury, Vermont
Printed in the United States of America

Additional copies are available for \$10 (plus 60 cents for Vermont sales tax) from:

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Checks should be made out to **Naturally Inspired**. All proceeds from the sale of this atlas help fund The Vermont Reptile and Amphibian Atlas.

The Vermont Reptile and Amphibian Atlas from 1995 to 2013

The goal of the Vermont Reptile and Amphibian Atlas is to gather and disseminate data on local reptiles and amphibians in a way that involves and informs Vermont residents, landowners, and land managers so that they will become more informed and effective stewards of wildlife and its habitat.

In the spring of 1995 the Preliminary Atlas of the Reptiles and Amphibians of Vermont was published. Like the atlas update you now have, it was not meant to be a field guide or a source of natural history information but rather a set of maps showing the locations of documented reports of reptiles and amphibians in Vermont. It was distributed in hopes of motivating people to document the reptiles and amphibians that they were seeing. The data were needed to provide reliable information on which to base the conservation status of Vermont's reptiles and amphibians and to provide a baseline of known distribution at the end of the 20th century. It worked. Since 1995 over 5,000 individuals have contributed over 50,000 new records. The new maps generated are proudly presented in this atlas. For identification information on, and photos of, Vermont reptiles and amphibians, please visit our website at VtHerpAtlas.org.

However, the Vermont Reptile and Amphibian Atlas is still a work in progress. I hope you will be impressed with all the new information that we have gathered. But at the same time, I hope it is equally clear how many gaps remain and how easily you can help us fill them in. We are still missing records of such common species as Snapping Turtles from 88 Vermont towns, and of Common Gartersnakes from 12 Vermont towns. Many of our older records are now considered historic (over 25 years old) and need to be updated. We are also interested in any type of natural history information such as timing of calling, migration times, maximum sizes, breeding behavior, and road-crossing locations; so please keep those records coming.

The Vermont reptile and amphibian database has now grown to include almost 85,000 records and our maps remain the standard source for Vermont herptile distribution information. Much of the credit is due to volunteers ranging in age from elementary school students to retirees and in experience from novices to professional herpetologists. Some individuals have put in hundreds of hours and others a few minutes, but all are greatly appreciated. Those people who have contributed over 20 species reports to the Atlas are individually listed elsewhere in this document.

We will continue to update the maps and documents on our website (VtHerpAtlas.org) as well as list upcoming events every few years, so check in once in a while to see the latest versions. Thanks to all for your continuing interest in Vermont herptiles.

Reptiles and Amphibians of Vermont

Accepted Name, State Rank, and State Status, as of January 2012

Common Name	Scientific Name	State Rank	State Status	SGCN
Amphibians				
Salamanders				
Jefferson Salamander	<i>Ambystoma jeffersonianum</i>	S 2	SC	High
Blue-spotted Salamander	<i>Ambystoma laterale</i>	S 3	SC	Medium
Spotted Salamander	<i>Ambystoma maculatum</i>	S 5		Medium
Northern Dusky Salamander	<i>Desmognathus fuscus</i>	S 5		
Northern Two-lined Salamander	<i>Eurycea bislineata</i>	S 5		
Spring Salamander	<i>Gyrinophilus porphyriticus</i>	S 4		
Four-toed Salamander	<i>Hemidactylium scutatum</i>	S 2	SC	Medium
Mudpuppy	<i>Necturus maculosus</i>	S 2	SC	High
Eastern Newt	<i>Notophthalmus viridescens</i>	S 5		
Eastern Red-backed Salamander	<i>Plethodon cinereus</i>	S 5		
Frogs (including toads)				
American Toad	<i>Anaxyrus americanus</i>	S 5		
Fowler's Toad	<i>Anaxyrus fowleri</i>	S 1	SC	High
Gray Treefrog	<i>Hyla versicolor</i>	S 5		
American Bullfrog	<i>Lithobates catesbeianus</i>	S 5		
Green Frog	<i>Lithobates clamitans</i>	S 5		
Pickerel Frog	<i>Lithobates palustris</i>	S 5		
Northern Leopard Frog	<i>Lithobates pipiens</i>	S 4		
Mink Frog	<i>Lithobates septentrionalis</i>	S 3		
Wood Frog	<i>Lithobates sylvaticus</i>	S 5		
Spring Peeper	<i>Pseudacris crucifer</i>	S 5		
Boreal Chorus Frog	<i>Pseudacris maculata</i>	S 1	E	High
Reptiles				
Turtles				
Spiny Softshell	<i>Apalone spinifera</i>	S 1	T	High
Snapping Turtle	<i>Chelydra serpentina</i>	S 5		
Painted Turtle	<i>Chrysemys picta</i>	S 5		
Spotted Turtle	<i>Clemmys guttata</i>	S 1	E	High
Wood Turtle	<i>Glyptemys insculpta</i>	S 3	SC	High
Northern Map Turtle	<i>Graptemys geographica</i>	S 3	SC	
Eastern Musk Turtle	<i>Sternotherus odoratus</i>	S 2	SC	Medium
Lizards and Snakes				
Lizards				
Common Five-lined Skink	<i>Plestiodon fasciatus</i>	S 1	E	High
Snakes				
North American Racer	<i>Coluber constrictor</i>	S 1	T	High
Timber Rattlesnake	<i>Crotalus horridus</i>	S 1	E	High
Ring-necked Snake	<i>Diadophis punctatus</i>	S 3		
Milksnake	<i>Lampropeltis triangulum</i>	S 5		
Northern Watersnake	<i>Nerodia sipedon</i>	S 3		Medium
Smooth Greensnake	<i>Opheodrys vernalis</i>	S 3		Medium
Eastern Ratsnake	<i>Pantherophis alleghaniensis</i>	S 2	T	High
DeKay's Brownsnake	<i>Storeria dekayi</i>	S 4		Medium
Red-bellied Snake	<i>Storeria occipitomaculata</i>	S 5		
Eastern Ribbonsnake	<i>Thamnophis sauritus</i>	S 2	SC	High
Common Gartersnake	<i>Thamnophis sirtalis</i>	S 5		

Hypothetical Species

Amphibians

Allegheny Mountain Dusky Salamander

Desmognathus ochrophaeus

One specimen of a juvenile from central Vermont may be of this species. Otherwise, the distribution of this species is believed to have an eastern boundary of the Hudson River and Lake Champlain. No populations have been located.

Northern Slimy Salamander

Plethodon glutinosus

Specimens labeled from Caledonia County in Vermont at the Carnegie Museum in Pittsburgh have long been questioned. They are believed to be mislabeled. No populations have been located.

Marbled Salamander

Ambystoma opacum

One historic photo of this species is labeled Vermont and an historic field record from Fair Haven is from a credible source. A population of this species may eventually be located in southern Vermont, most likely along the Connecticut River drainage. No populations have been located.

Reptiles

Eastern Box Turtle

Terrapene carolina

The occasional reports of single adult animals are assumed to be released pets. Reports near the southern Connecticut River Valley could possibly be native turtles. No populations have been located.

Blanding's Turtle

Emydoidea blandingii

Widely disjunct populations of this species suggest that populations could potentially exist in Vermont. One well-documented record could be a released pet. No populations have been located.

Eastern Hog-nosed Snake

Heterodon platirhinos

Two well-documented records of this species in Vernon suggest a local population. Populations are very close (~15 miles) on the Massachusetts and New York border.

Explanation of Legal Status & Information Ranks

State Status: As per the Vermont Endangered Species Law

- E: Endangered--In immediate danger of becoming extirpated in the state.
- T: Threatened--High possibility of becoming endangered in the near future.

Information Categories: Not established by law

- PE: Proposed for endangered.
- PT: Proposed for threatened.
- SC: Special Concern--rare; status should be watched.

State Ranks of Plants, Animals, and Natural Communities

State ranks are assigned by the Nongame & Natural Heritage Program based on the best available information. They are not established by law. They are an estimate of the relative risks of extinction or extirpation of each species in this state. Ranks are reviewed periodically.

- S1: Very rare: at very high risk due to extreme rarity (often 5 or fewer populations or occurrences in the state), very steep declines, or other factors.
- S2: Rare: at high risk due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors,
- S3: Uncommon: at moderate risk due to restricted range, relatively few populations, or occurrences (often 80 or fewer), recent and widespread declines, or other factors.
- S4: Locally common or widely scattered to uncommon: not rare.
- S5: Common: widespread and abundant.

SGCN: Species designated as having the Greatest Conservation Need (SGCN) in Vermont's Wildlife Action Plan.

Listed as either high or medium priority for conservation funding through the State Wildlife Grants Program.

Relative Abundance of Vermont's Amphibians January 1, 1987 to December 31, 2011

Jim Andrews, Elizabeth Volpe, & Erin Talmage

These tables give a rough idea of the relative abundance and distribution of Vermont's herptiles. The comparisons are subject to bias by the audibility, visibility, notoriety, and ease of identification of species. For example, since salamanders don't call and are usually under cover, they are reported less often than frogs. Consequently, the species are sorted by taxonomic group so that some of these biases are alleviated. However, some other biases remain. For instance, Eastern Ribbonsnakes when observed may be assumed to be Common Gartersnakes and hence they may be under-reported. Aquatic species of turtle that bask only infrequently are probably reported less often than terrestrial or basking species. Still, these tables help the Scientific Advisory Group decide if the state rank and/or state status of a species needs to be reevaluated. Species are listed in descending order of the number of "sites" from which they have been reported. Errors in the number of known sites and towns for the more abundant species are almost certainly included and those numbers are changing monthly. There are a total of 255 "towns" (political units including towns, cities, gores, and unincorporated areas) in the state of Vermont.

Salamanders

Species	# of towns	# of sites	State Rank	State Status	Site Size	SGCN Priority
Eastern Newt	221	1151	S5		0.5km	
Spotted Salamander	218	861	S5		0.5km	Medium
Eastern Red-backed Salamander	239	777	S5		0.5km	
Northern Two-lined Salamander	216	557	S5		0.5km	
Northern Dusky Salamander	191	413	S5		0.5km	
Spring Salamander	102	181	S4		0.5km	
Blue-spotted Salamander Group	57	175	S3	SC	0.5km	Medium
Jefferson Salamander Group	54	94	S2	SC	0.5km	High
Mudpuppy	26	38	S2	SC	0.5km	High
Four-toed Salamander	21	26	S2	SC	0.5km	Medium

Frogs

Species	# of towns	# of sites	State Rank	State Status	Site Size	SGCN Status	Notes
Green Frog	253	1373	S5		0.5km		
Wood Frog	257	1170	S5		0.5km		
Spring Peeper	234	1042	S5		0.5km		
American Toad	250	1002	S5		0.5km		
Gray Treefrog	163	519	S5		0.5km		
Pickerel Frog	175	456	S5		0.5km		
American Bullfrog	170	423	S5		0.5km		
Northern Leopard Frog	74	357	S4		0.5km		
Mink Frog	43	75	S3		0.5km		
Fowler's Toad	2	2	S1	SC	0.5km	High	Missing since 2007
Boreal Chorus Frog	1	1	S1	E	0.5km	High	Missing since 1999

Relative Abundance of Vermont's Reptiles January 1, 1987 to December 31, 2011

Jim Andrews, Elizabeth Volpe, & Erin Talmage

Turtles

Species	# of towns	# of sites	State Rank	State Status	Site Size	SGCN Status
Painted Turtle	173	506	S5		2.0km	
Snapping Turtle	174	409	S5		3.0km	
Wood Turtle	124	184	S3	SC	4.8km	High
Northern Map Turtle	19	39	S3	SC	4.2km	
Eastern Musk Turtle	13	14	S2	SC	8.0km	Medium
Eastern Box Turtle	6	7	N/A	Hypothetical	2.6km	
Spotted Turtle	4	5	S1	E	2.0km	High
Spiny Softshell	8	2	S1	T	50.0km	High

Snakes

Species	# of towns	# of sites	State Rank	State Status	Site Size	SGCN Status	Notes
Common Gartersnake	229	1171	S5		0.5km		
Milksnake	152	637	S5		0.5km		
Red-bellied Snake	164	423	S5		0.5km		
Ring-necked Snake	129	258	S3		0.5km		
DeKay's Brownsnake	68	189	S4		0.5km	Medium	
Smooth Greensnake	85	165	S3		0.5km	Medium	
Northern Watersnake	39	98	S3		1.0km	Medium	
Eastern Ribbonsnake	7	18	S2	SC	2.6km	High	
Eastern Ratsnake	11	17	S2	T	6.4km	High	
North American Racer	10	7	S1	T	9.6km	High	Missing since 2008
Timber Rattlesnake	5	2	S1	E	12.8km	High	
Eastern Hog-nosed Snake	2	2	Hyp	Hypothetical	3.2km		

Lizards

Species	# of towns	# of sites	State Rank	State Status	Site Size	SGCN Status
Common Five-lined Skink	2	17	S1	E	0.5 km	High

Useful Sources of Information on New England Reptiles and Amphibians

Identification (Book). A few good field guides to reptiles and amphibians exist. These help you identify herptiles but do not give you life history information. One that is easy to find, and up to date is:

Conant, R., and J.T. Collins. 1998. A field guide to reptiles and amphibians of eastern and central North America. Third Edition, expanded, Houghton Mifflin Company, Boston Massachusetts 616 pp.

Identification (Posters). The posters listed below contain photos, distribution maps, and identification information on all of Vermont's species. They can be purchased through the Vermont Reptile and Amphibian Atlas website (<http://VtHerpAtlas.org>). All income from the posters helps support our efforts.

Andrews, J.S. and A.K. Burgess, 2006. Native Vermont Reptiles Part 1: Snakes and Lizards

Andrews, J.S. and A.K. Burgess, 2006. Native Vermont Reptiles Part 2: Turtles

Andrews, J.S. and A.K. Burgess, 2007. Native Vermont Amphibians Part 1: Frogs

Andrews, J.S. and A.K. Burgess, 2007. Native Vermont Amphibians Part 2: Salamanders

Natural History. These guides focus less on identification and more on natural history, local distribution, and conservation.

Franke, V., and J. Andrews. 2008. Rattlers, peepers, and snappers: the first complete DVD guide to all the amphibians and reptiles that breed in New England. Peregrine Productions, Waterbury, VT. This guide includes field trips, songs, quizzes, and information on the natural history, identification, and conservation of all of New England's herptiles. You can buy it through Amazon or through Peregrine's website.

Gibbs, J.P., A.R. Breisch, P.K. Ducey, G. Johnson, J.L. Behler, and R.C. Bothner. 2007. The amphibians and reptiles of New York State: identification, natural history, and conservation. Oxford University Press, New York 422 pp.

Harding, J.H. 1997. Amphibians and reptiles of the Great Lakes Region. The University of Michigan Press, Ann Arbor, Michigan 378 pp. (All our species are included.)

Hulse, A., C. J. McCoy, and E. Censky. 2001. Amphibian and reptiles of Pennsylvania and the Northeast. Cornell University Press, Ithaca, New York 419 pp. (Most of our species are included.)

Hunter, M.L., A. Calhoun, and M. McCullough (eds.). 1999. Maine amphibians and reptiles. The University of Maine Press, Orono, Maine 272 pp. (This edition includes a CD of local frog calls. Call 207-866-0573 to order.)

Klemens, M.K. 1993. Amphibians and reptiles of Connecticut and adjacent regions. State Geological and Natural History Survey of Connecticut, Bulletin No. 112 318 pp. (Unfortunately this is currently out of print.)

Krulikowski, L. 2007 Snakes of New England: A Photographic and Natural History Study. Self-published 320 pp.
(For more information or to order see author's website: <http://www.snakesofnewengland.com/>)

Tyning, T.F. 1990. A guide to amphibians and reptiles. Little, Brown and Company. Boston Massachusetts 400 pp.

Calls. A very useful tape to help you learn the calls of frogs and toads is:

Eliot, L. 2004. The calls of frogs and toads. Stackpole Books. Mechanicsburg, Pennsylvania. (call 1-800-732-3669 to order)

Websites. Many useful sites exist. Some provide more reliable information than others. A few reliable sites, some with many links to other resources are:

The Vermont Reptile and Amphibian Atlas
<http://VTHerpAtlas.org>

Amphibiaweb (an excellent source of information on amphibians)
<http://amphibiaweb.org/>

North American Amphibian Monitoring Program (NAAMP)
<http://www.pwrc.usgs.gov/naamp>

Society for the Study of Amphibians and Reptiles (SSAR)
<http://www.ssarherps.org/>

The Snakes of Massachusetts (includes all our local snakes)
<http://www.masnakes.org>

University of Michigan Animal Diversity Web
<http://animaldiversity.ummz.umich.edu/site/accounts/classification/vertebrata.html#Vertebrata>

Management Information. Management guides are just beginning to be available. All of these include reptile and amphibian related information.

Biebighauser, T. 2002. A guide to creating vernal ponds. USDA Forest Service in cooperation with the Izaak Walton League of America. Morehead, Kentucky. 33 pp. (Call 606-784-6428 to order or find it on the web.)

Calhoun, A.J.K. and M. W. Klemens. 2002. Best Development Practices: Conserving pool-breeding amphibians in residential and commercial developments in the Northeastern United States. MCA Technical Paper No. 5, Metropolitan Conservation Alliance, Wildlife Conservation Society, Bronx, New York. 57 pp. (Call 924-925-9175 to order.)

Calhoun, A.J.K. and P. deMaynadier. 2004. Forestry habitat management guidelines for vernal pool wildlife. MCA Technical Paper No. 6, Metropolitan Conservation Alliance, Wildlife Conservation Society, Bronx, New York. 32 pp. (Call 924-925-9175 to order.)

Evink, G. 2002. National Cooperative Highway Research Program Synthesis 305, Interaction between roadways and wildlife ecology, A synthesis of highway practice. Transportation Research Board, Washington D.C. 78 pp. (Impacts of roads on herptiles and some conservation strategies. A big problem, good information. Order at 202-334-3213 or on the web.)

Flatebo, G., C. Foss, and S. Pelletier. 1999. Biodiversity in the forests of Maine: Guidelines for land management. University of Maine Cooperative Extension Bulletin #7147. C. Elliot editor, University of Maine Cooperative Extension, Orono, Maine. 168 pp. (Contact UME Extension Office at 207-581-3188.)

Kingsbury, B. and J. Gibson. 2002. Habitat management guidelines for amphibians and reptiles of the Midwest. Midwest Partners in Amphibian and Reptile Conservation (Midwest PARC). 57 pp. (Visit the PARC website for more information: www.parcplace.org.)

Mitchell, J.C., A.R. Breisch, and K.A. Buhlmann. 2006 Habitat Management Guidelines for Amphibians and Reptiles of the Northeastern United States. Partners in Amphibian and Reptile Conservation, Technical Publication HMG-3, Montgomery, Alabama. 108 pp. (Visit the PARC website for more information, or to order for a suggested donation of \$10: www.parcplace.org.)

Additional Reading on Reptiles and Amphibians

Amphibians

- Bishop, S.C. 1941 (June). The salamanders of New York. New York State Museum bulletin No. 324. The University of the State of New York, Albany, New York 365 pp. (This book is currently out of print, but a PDF can be downloaded by visiting the New York State Library webpage.)
- Bishop, S.C. 1994. Handbook of salamanders: The salamanders of the United States, of Canada, and of lower California. Comstock Publishing Associates, A Division of Cornell University Press, Ithaca, New York 555 pp. (A reprint of an old classic. It does not contain as much information on each species as The Salamanders of New York.)
- Dickerson, M.C. 1969. The frog book: North American toads and frogs, with a study of the habits and life histories of those of the northeastern states. Dover Publications, Inc., New York 253 pp. (A reprint of an old classic. Still excellent information but some of it is outdated. No newer comprehensive works on frogs are available.)
- Epple, A.O. 1983. The amphibians of New England. Down East Books, Camden, Maine 138 pp. (A good book for the beginner but without plates or photos.)
- Lannoo, M. (ed.) 2005. Amphibian declines: the conservation status of United States species. University of California Press, Berkeley and Los Angeles, California 926 pp. (Contains the most up-to-date conservation information on all North American amphibians.)
- McDiarmid, R. W. and R. Altig. (eds.) 1999. Tadpoles: the biology of anuran larvae. The University of Chicago Press, Ltd., London 348 pp. (All you ever wanted to know about tadpoles.)
- Petranka, R.A. 1998. Salamanders of the United States and Canada.) Smithsonian Institution Press, Washington, DC 587 pp. (The most current source for detailed information on salamanders.)
- Pfingsten, R.A. and F.L. Downs. 1989. Salamanders of Ohio. Bulletin of the Ohio Biological Survey Vol. 7, No. 2. College of Biological Sciences, The Ohio State University, Columbus, Ohio 315 pp, 29 plates. (This contains detailed information on the many species of salamander that we share with Ohio.)
- Wright, A.H. and A.A. Wright. 1995. Handbook of frogs and toads of the United States and Canada. Comstock Publishing Associates, A Division of Cornell University Press, Ithaca, New York 640 pp. (A reprint of an old classic. No newer comprehensive works on frogs are available.)

Reptiles

- Carr, A. 1995. Handbook of turtles: The turtles of the United States, Canada, and Baja California. Comstock Publishing Associates, A Division of Cornell University Press, Ithaca, New York 542 pp. (A reprint of an old classic.)
- Ernst, C. H., and E. Ernst. 2003. Snakes of the United States and Canada. Smithsonian Institution Press, Washington D.C. 668 pp. (The latest and most complete source for snakes.)

- Ernst, C.H. and J.E. Lovich. 2009. *Turtles of the United States and Canada*, Second Edition. Johns Hopkins University Press. 827 pp. (The best current source for detailed information.)
- Klauber, L.M. 1982. *Rattlesnakes: their habits, life histories, & influence on mankind*, abridged edition. University of California Press, Berkeley and Los Angeles, California 350 pp. (An edited reprint of an old classic.)
- Klemens, M. (ed.) 2000. *Turtle conservation*. Smithsonian Institution Press. Washington 334 pp. (A current discussion of conservation challenges.)
- Mitchell, J.C. 1994. *The reptiles of Virginia*. Smithsonian Institution Press, Washington 352 pp. (This book provides excellent information on the species of reptile that we share with Virginia; most of our species are found in this book.)
- Smith, H.M. 1995. *Handbook of lizards: lizards of the United States and Canada*. Comstock Publishing Associates, A Division of Cornell University Press, Ithaca, New York 557 pp. (A reprint of an old classic.)
- Tennant, A. 2003. *Snakes of North America: eastern and central regions*. Lone Star Books, Lanham, Maryland. 605 pp. (One of a two excellent new snake resources.)
- Wright, A.H. and A.A. Wright. 1994. *Handbook of snakes of the United States and Canada*, volumes 1 and 2. Comstock Publishing Associates, A Division of Cornell University Press, Ithaca, New York 1105 pp. (A reprint of an old classic.)

Texts

- Duellman, W.E. and L. Trueb. 1994. *Biology of amphibians*. The Johns Hopkins University Press, Baltimore, Maryland 670 pp. (The standard text for amphibians.)
- Heyer, W.R., M.A. Donnelly, R.W. McDiarmid, L-A. C. Hayek, and M.S. Foster. 1994. *Measuring and monitoring biological diversity: standard methods for amphibians*. Smithsonian Institution Press, Washington 364 pp. (Useful information for researchers.)
- Mitchell, J.C. 2000. *Amphibian monitoring methods and field guide*. Smithsonian National Zoological Park's Conservation & Research Center, Front Royal, Virginia 56 pp. (Very accessible, designed for citizen scientists.)
- Stebbins, R.C. and N.W. Cohen. 1995. *A natural history of amphibians*. Princeton University Press, Princeton, New Jersey 316 pp. (Lots of interesting information in an accessible and easy to read format.)
- West, L. and W.P. Leonard. 1997. *How to photograph reptiles & amphibians*. Stackpole Books, Mechanicsburg, Pennsylvania 118 pp.
- Zug, G.R. 1993. *Herpetology: an introductory biology of amphibians and reptiles*. Academic Press, A Division of Harcourt Brace & Company, San Diego, California 527 pp. (A standard text.)

Novels

- Phillips, K. 1994. *Tracking the vanishing frogs: an ecological mystery*. St. Martin's Press, New York 244 pp. (A good background read on amphibian decline.)

Other Regional Atlases

- Bider, J.R. and S. Matte. 1996. The atlas of amphibians and reptiles of Quebec. St. Lawrence Valley Natural History Society and Ministère de l'Environnement et de la Faune du Québec, Direction de la faune et des habitats, Québec 106 pp.
- Taylor, J. 1993. The amphibians and reptiles of New Hampshire with keys to larval, immature and adult forms. Nongame and Endangered Wildlife Program, New Hampshire Fish and Game Department, Concord, New Hampshire 71 pp. (Contains some simple and useful keys).

Search Tips

Turtles. Although you might stumble upon a turtle at any time of the year, the best time to look for most of them is in the spring as they bask on logs or along the shores of lakes, rivers, ponds, and marshes. In spring the water is still cold and on sunny days turtles bask to raise their body temperatures. An added bonus at this time of year is that much of the annual vegetation has not yet started growing, leaving the turtles much more exposed and easier to see and identify. You will probably need binoculars or a zoom lens to see them well enough to make an identification.

Snakes and Lizards. Snakes bask most often in the spring and fall to raise their body temperatures. It is during these two time periods that they are easiest to locate. During the summer you often have to look under rocks and logs or in the shade to find them. Late April and early May is the time that many snake species first become active. They can often be found basking in open areas (roads, rock ledges, lawns, etc.) particularly on sunny mornings after a cold night. In the fall, many young snakes have been added to the population. This increases your chances of finding one. In late September or early October search along small roads that separate swamps, marshes, and overgrown fields from nearby south or west facing rocky wooded hillsides. You can often find snakes as they stop to bask in the roads on their way to a denning site.

Frogs and salamanders. All amphibians need to stay moist. The best time to find them is during or immediately after a hard rain. Searching along roads at any time of the year during or after a heavy rain should locate a few species. In the spring many species of frog and salamander migrate to nearby ponds and vernal pools to breed. At this time of year they can often be found in and around small ponds at night with a flashlight. Frogs are easier to locate if you learn their calls (see links at VtHerpAtlas.org). On almost any warm evening between April and July some species of frog will be calling. During summer days you will need to look for them in their moist hiding places. Many salamander species can be found under stones and logs or under the bark of logs and dead trees that hold some moisture. Some frogs stay close to water during summer days to retain their moisture. Search the edges of ponds, streams, and marshes to locate them at this time of year. Search with your feet as well as your eyes and hands. If possible, put your feet where you think the frogs will be. This will force them to move. If they don't move, they can be very difficult to see.

Handling

Don't disturb any reptile or amphibian more than is necessary. If you need to handle them, do so gently. Keep in mind that amphibians need to stay moist and that both reptiles and amphibians can over-heat easily. If amphibians start feeling sticky, douse them with water or return them to their cover. If you confine amphibians temporarily for any reason keep them moist and in the shade. Rinse chemicals off your hands before handling amphibians. They are particularly sensitive to insect repellent (DEET). Once you have identified them, return them to exactly where you found them. Herptiles are dependent not only on a specific habitat mosaic but they also learn where to find food, shelter, breeding habitat, and overwintering habitat. They often do not survive if released anywhere other than where they were found. If they were under a piece of cover, return the cover to its place first, then place the animal next to it. In this way you will avoid the chance of injuring the animal when you put the cover on top of it. Return all pieces of cover to their original positions. Leave the woods and wetlands looking as close as possible to the way you found them.

With the exception of Timber Rattlesnakes and Snapping Turtles no Vermont herptiles are capable of inflicting serious injury. Any snake can bite, but most don't if handled gently. Even our largest snakes have teeth that are barely long enough to break your skin. Rose bushes and blackberries are far more dangerous. Amphibians may release irritating skin toxins, particularly if they are injured or handled roughly. Although I have never heard of anyone picking up diseases as a result of handling reptiles or amphibians in the wild, the feces of pet reptiles (along with dogs, cats, and birds) have been known to transmit disease. After handling herptiles, wash your hands before eating or rubbing your eyes.

Permits

Although all of Vermont's reptiles and amphibians are protected by law, the normal catch and release of common reptiles and amphibians or photographing them in the wild without transporting them does not require any permits or licenses. Collection of reptiles and amphibians for scientific research, educational purposes, or for the purpose of using them as the subjects of art or photography requires a scientific collection permit. The use of live traps or drift-fences even for common species requires this type of permit. A special endangered species permit is required for the taking or handling of threatened or endangered species. Threatened or endangered species should be documented without handling or disturbing them.

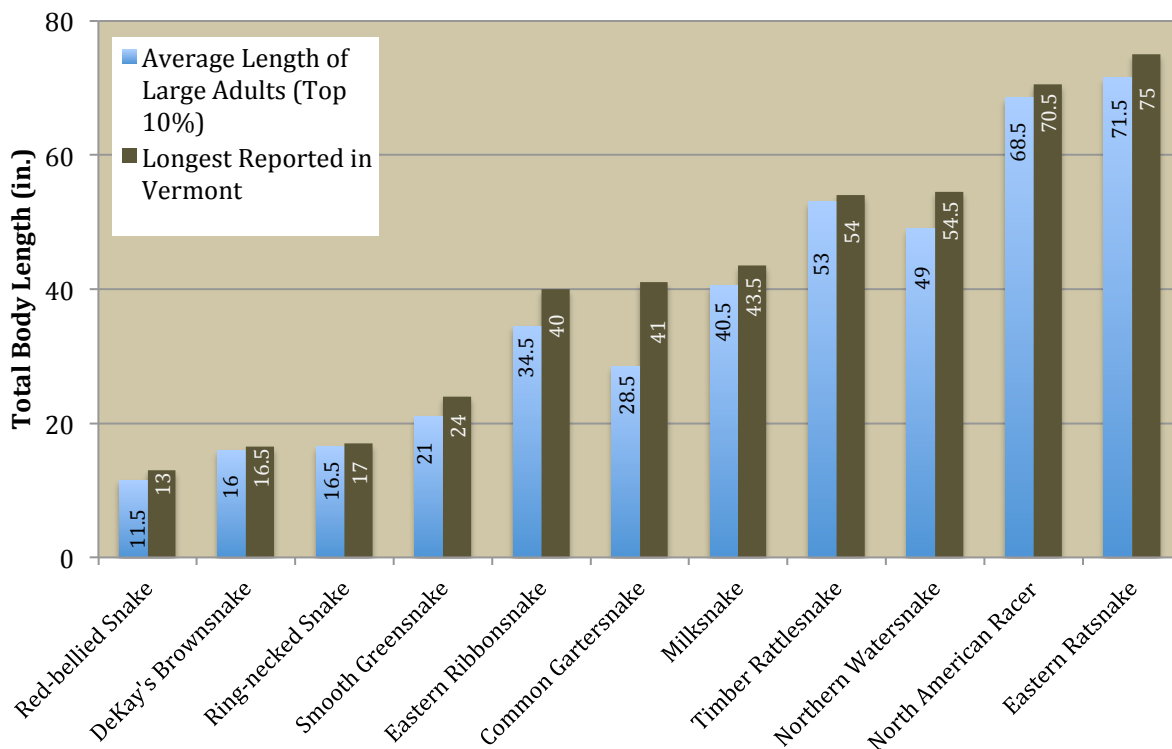
Relative Lengths of Vermont Snakes

This chart was compiled by Michael Iacchetta using snake-length data from the Vermont Reptile and Amphibian Atlas Database during February of 2013. Snakes were ranked in size order, and the longest 10% from each species were included in the data for the chart.

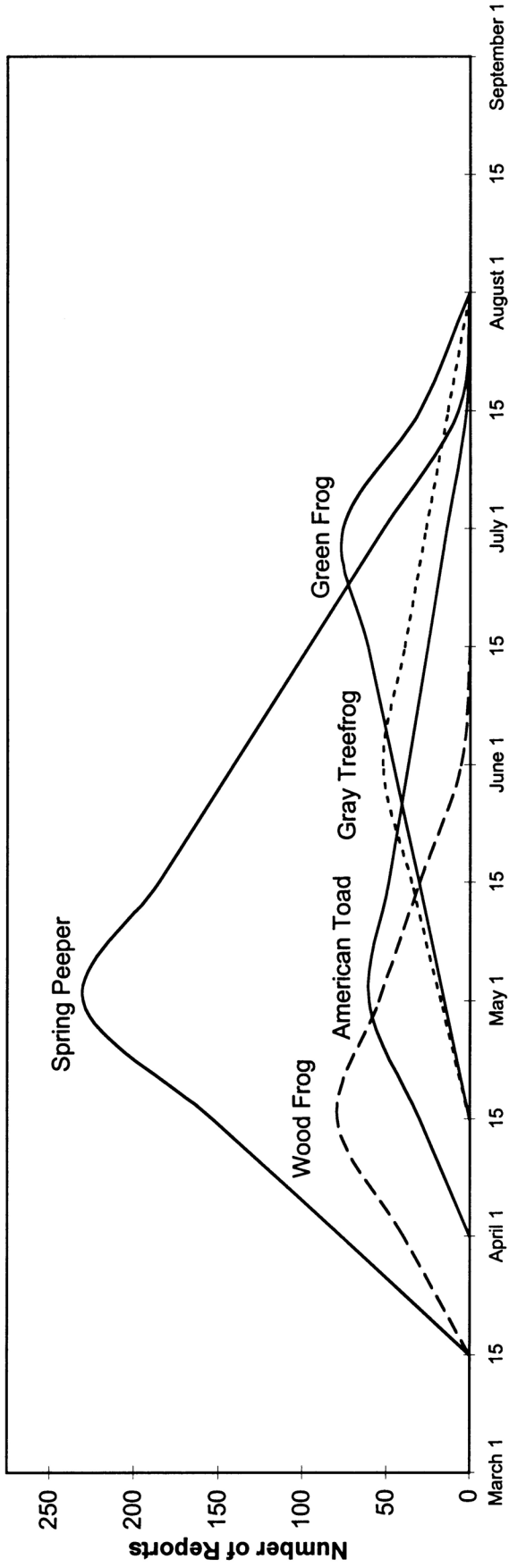
The lengths in the left hand column are the lengths you should expect for mature breeding adults of these species in Vermont. The length on the right is the largest; reliably-documented snake of that species from Vermont. The third numerical column represents the number of individuals found within the top 10% of records for that species. Can you document a larger one?

Length Data for the Longest (Top 10%) Vermont Snakes				
Measured in inches from the tip of the nose to the tail(TBL)				
Species	Average Length of Large Adults (Top 10%)	Longest Reported in Vermont	Number in Top 10%	Person(s) Who Recorded Longest
Red-bellied Snake	11.5	13	33	Kiley Briggs
DeKay's Brownsnake	16	16.5	7	Jim and Kris Andrews
Ring-necked Snake	16.5	17	14	Will Johnson & Hunter Robinson/Take PART
Smooth Greensnake	21	24	7	Chris and Clara Slesar & Adrie Kusserow
Eastern Ribbonsnake	34.5	40	10	Murray McHugh & Roberta Summers
Common Gartersnake	28.5	41	127	Eric Wardie
Milksnake	40.5	43.5	18	Emily Hartz & UVM Herpetology Class
Timber Rattlesnake	53	54	7	Alcott Smith & Forrest Hammond
Northern Watersnake	49	54.5	11	UVM Herpetology Class
North American Racer	68.5	70.5	5	Jim Andrews
Eastern Ratsnake	71.5	75	11	VT Agency of Transportation Field Trip

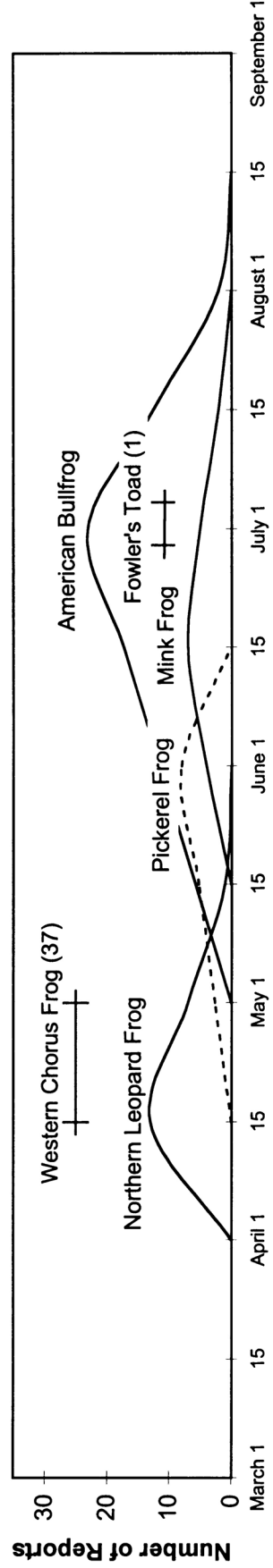
Vermont Snakes: Top 10% of Total Body Length (TBL)



Reports of Vermont Amphibians Calling from Breeding Habitat



Less Frequently Reported Species



Map Information

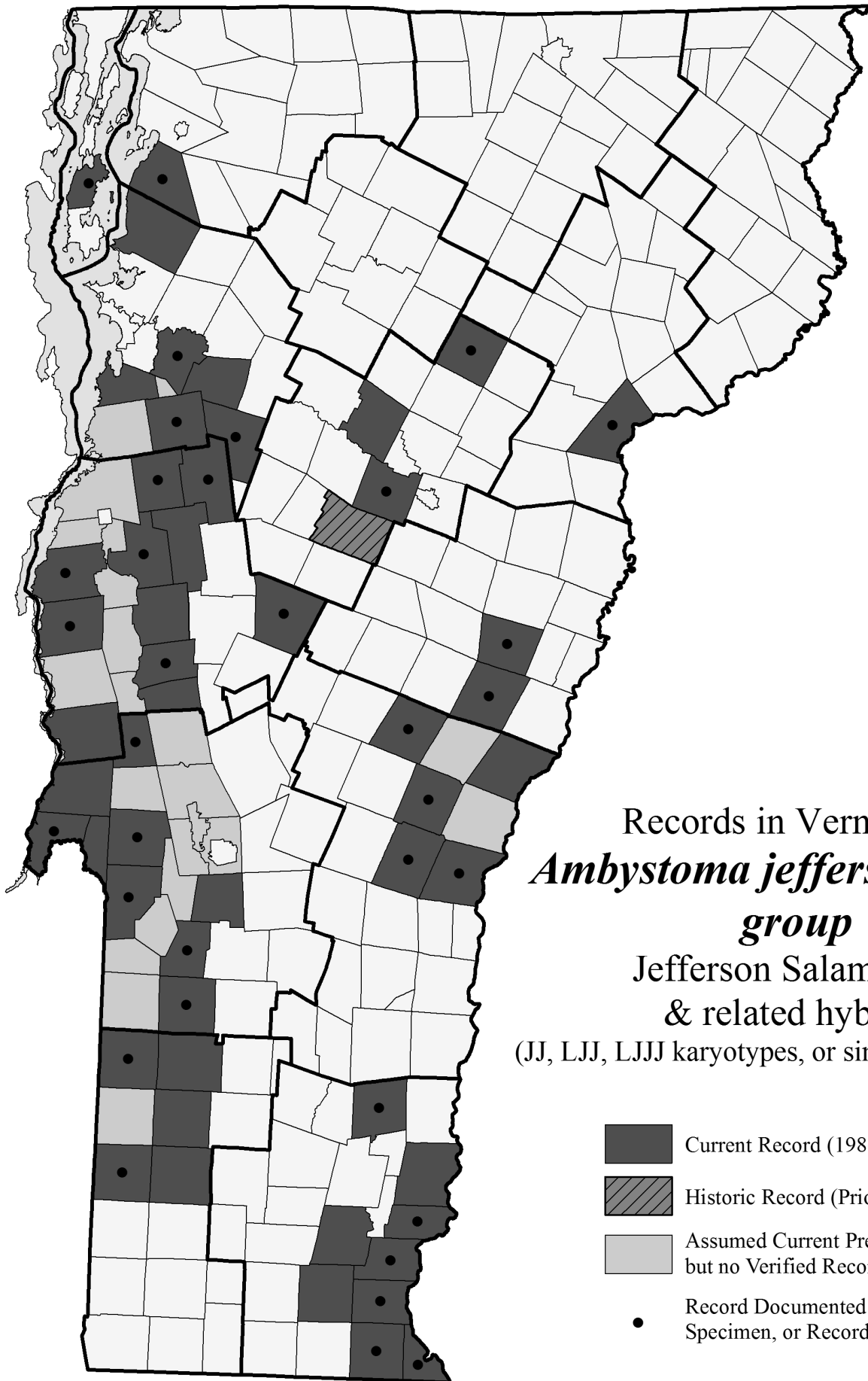
The maps on the following pages show the town and status of the reports that we have gathered for all of Vermont's known species of reptile and amphibian. All records are checked when they are received and given the status of unverified, sight, heard, field, tape, photo, or specimen. A record is considered unverified if not accompanied by written, tape, or photographic documentation, or backed up by a specimen. The most reliable of the unverified records are entered into the database but not mapped. Records given the status of sight, field, or heard are well documented in writing (including scientific literature) but not accompanied by a photo, tape, or specimen. These records are mapped but without a bullet. Those that are accompanied by a photo that shows the field marks clearly, a tape of a breeding call which is clear and repeated, or those that were collected, with a specimen residing at an institution or museum, are mapped with a bullet. Only specimens currently stored in Vermont were checked by the author. Some specimens stored out of state were checked by the staff of the institution if the author thought them to be questionable.

Records shown on these maps are separated into historic (greater than 25 years old) and current records. Historic records may be old specimens, literature records, bounty records, or information from the field notes or memories of observers. Historic records do not necessarily imply that the species is now missing from the area. In some cases, it is simply a result of a lack of recent survey effort.

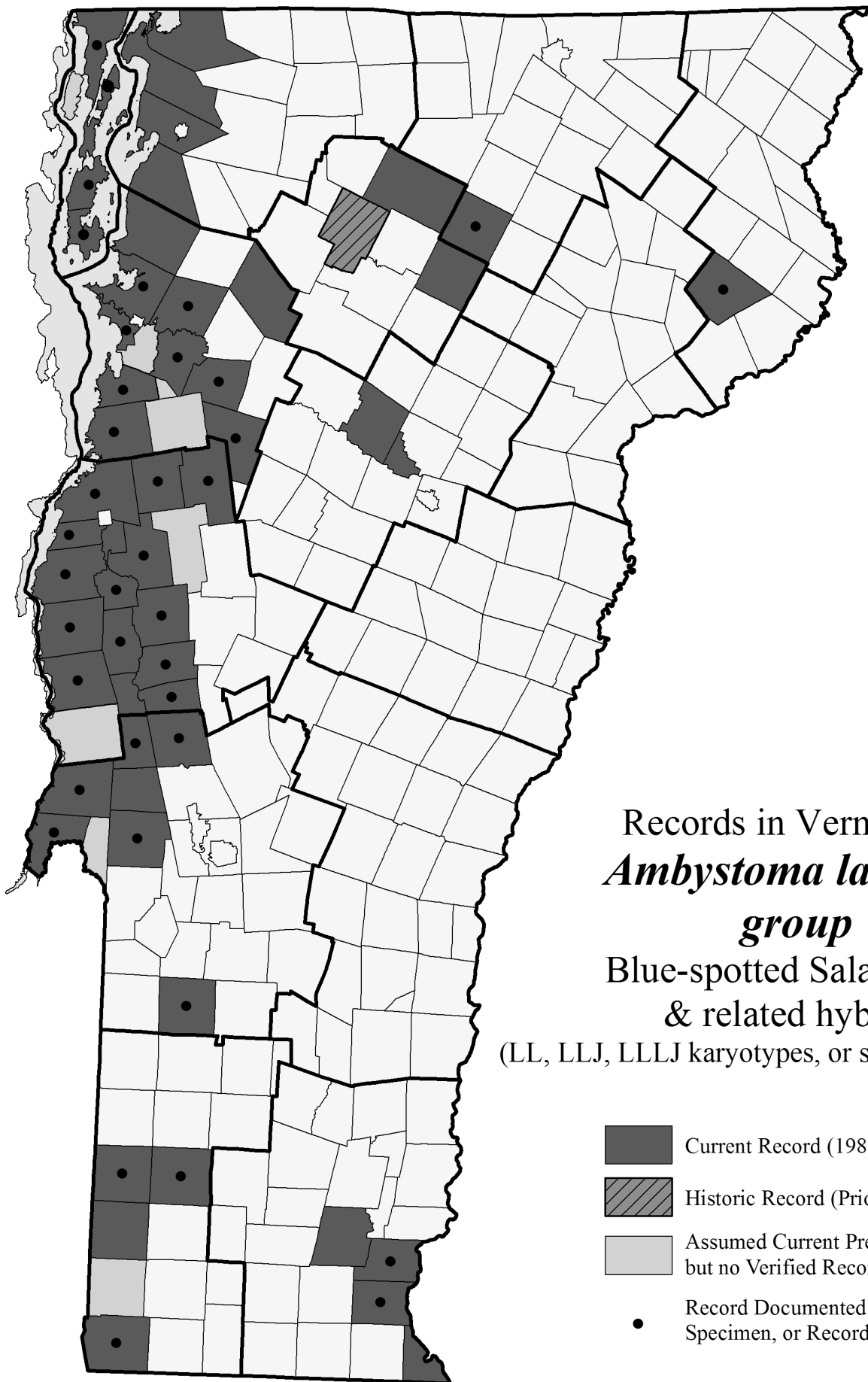
Thousands of records are represented in these maps that were not in our last set of published maps (2005). In addition, previous records are continually reviewed and corrected if needed.

Although information about subspecies is sometimes entered into the database, only one map was made per species, without defining the ranges of the subspecies. The exception to the one map per species rule is the case of the Jefferson and Blue-spotted Salamander complex. These two species have hybridized and created many different hybrid combinations (karyotypes). However, the hybrids are always associated with one of the parent species. When we have specific information about karyotypes for the parent species or their hybrids, they are mapped separately. Hence, there are additional maps for Blue-spotted Salamander Group and Jefferson Salamander Group. If we have no genetic or visually descriptive information that helps to place an individual somewhere on this spectrum, it is mapped on a composite map for both species and their hybrids.

Salamanders



Salamanders



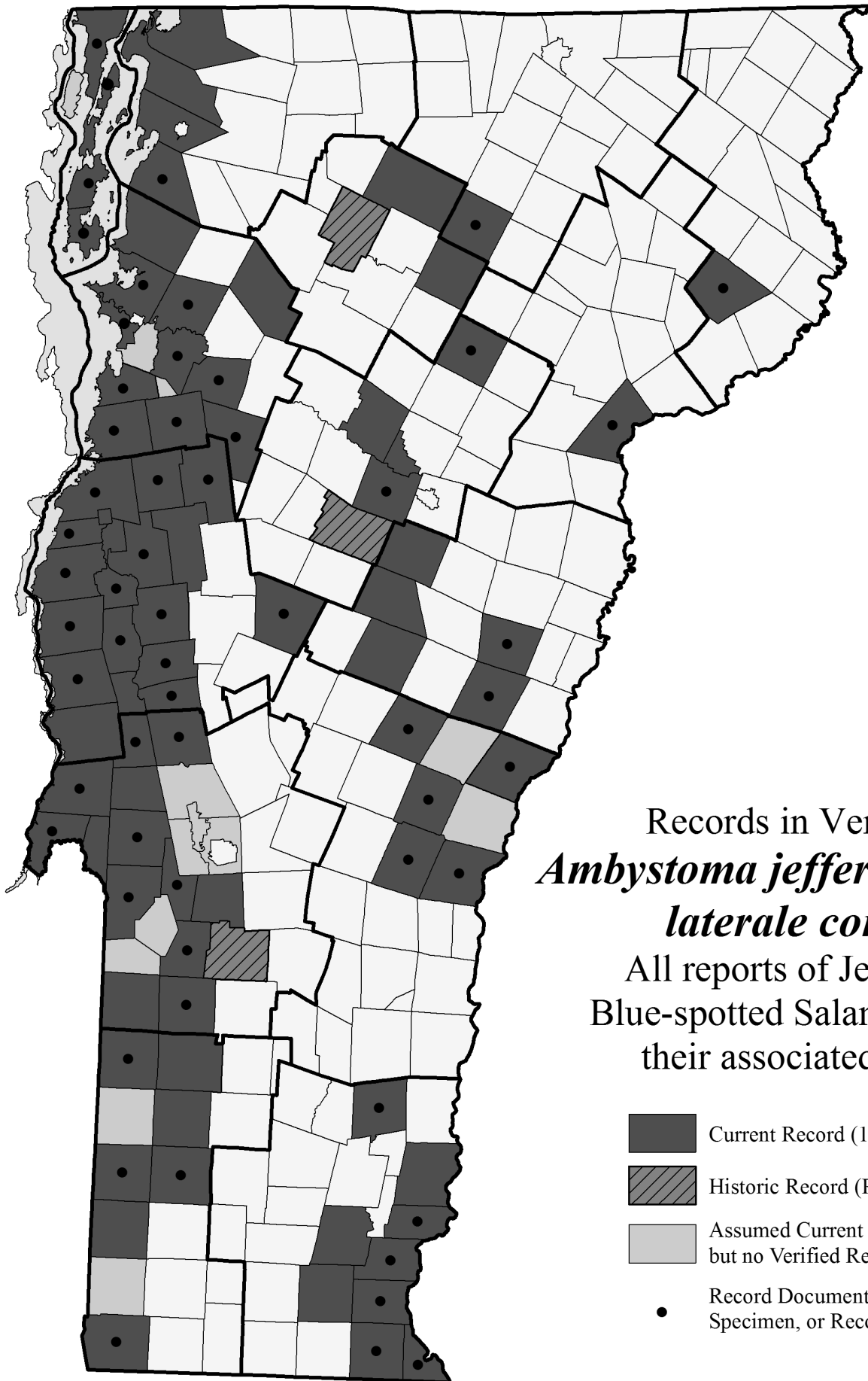
Records in Vermont of *Ambystoma laterale* group

Blue-spotted Salamander
& related hybrids

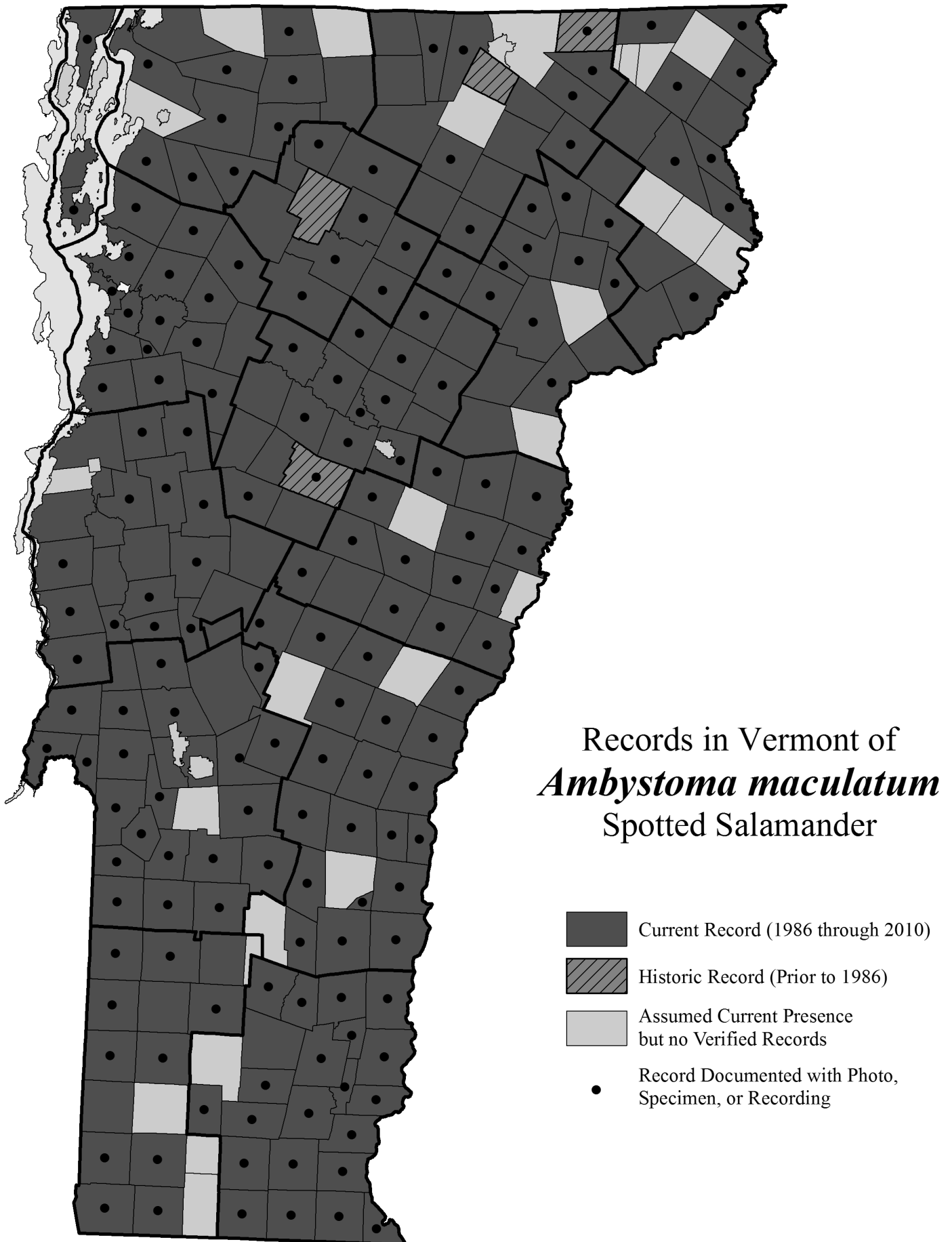
(LL, LLJ, LLLJ karyotypes, or similar morphology)

- Current Record (1986 through 2010)
- Historic Record (Prior to 1986)
- Assumed Current Presence but no Verified Records
- Record Documented with Photo, Specimen, or Recording

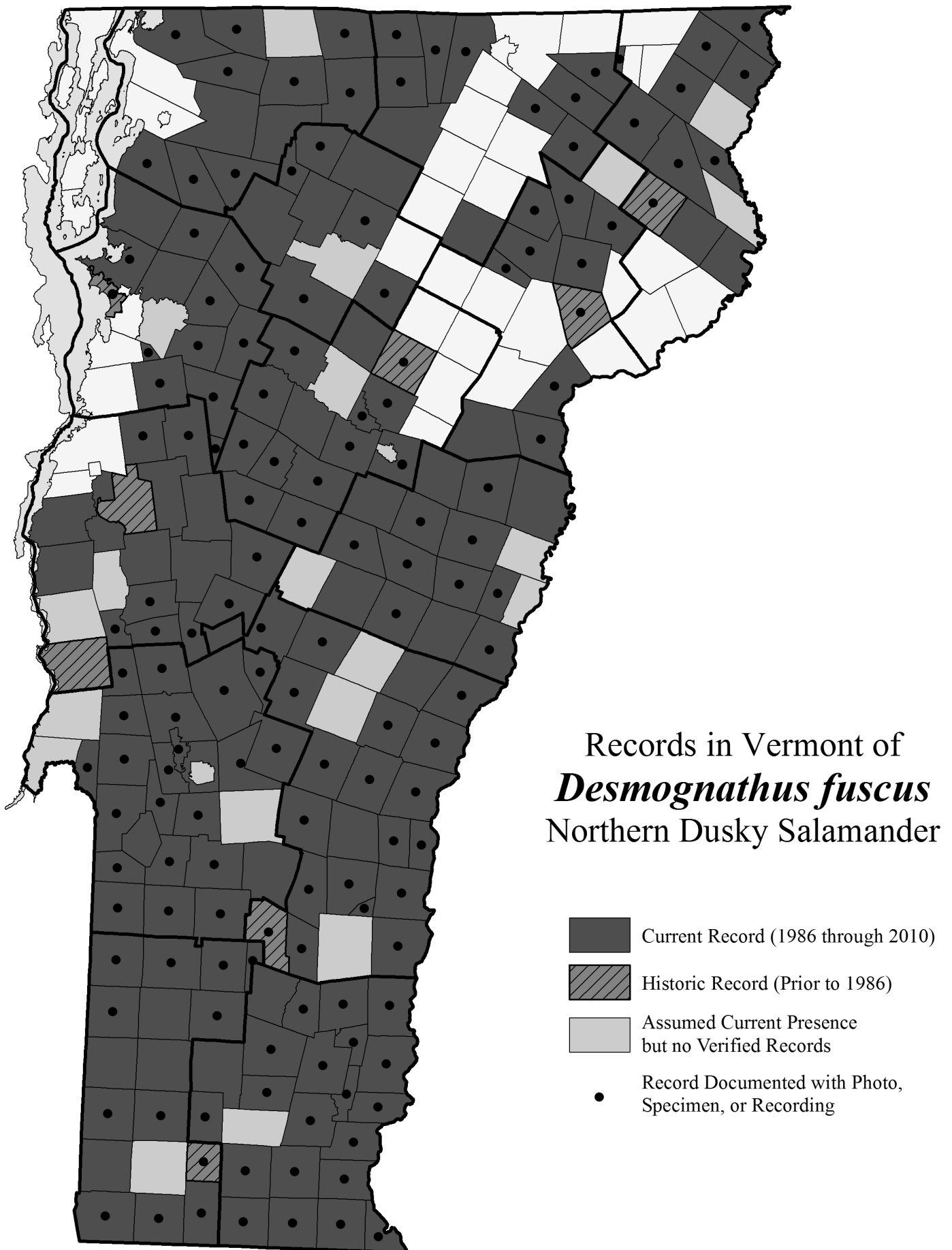
Salamanders



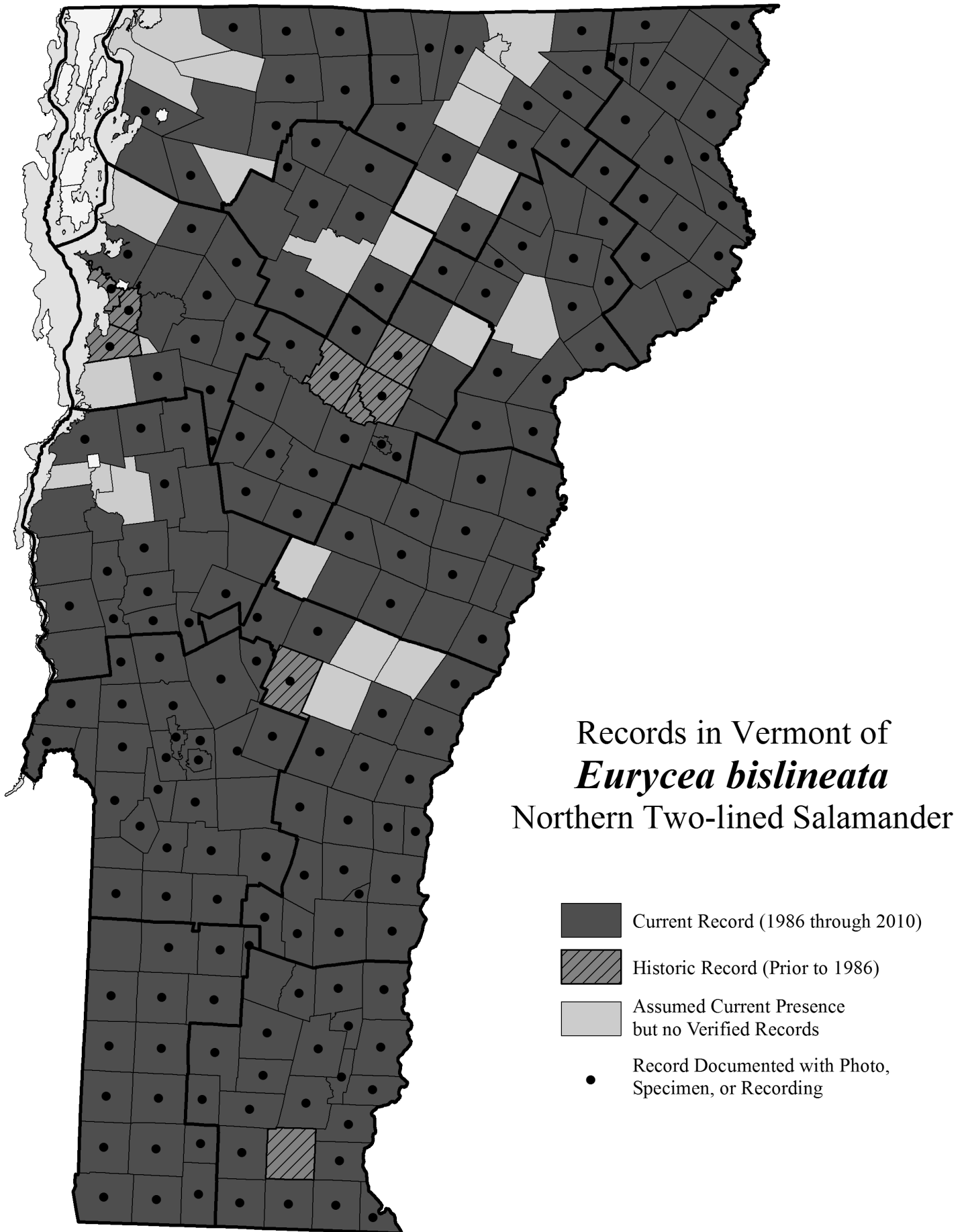
Salamanders



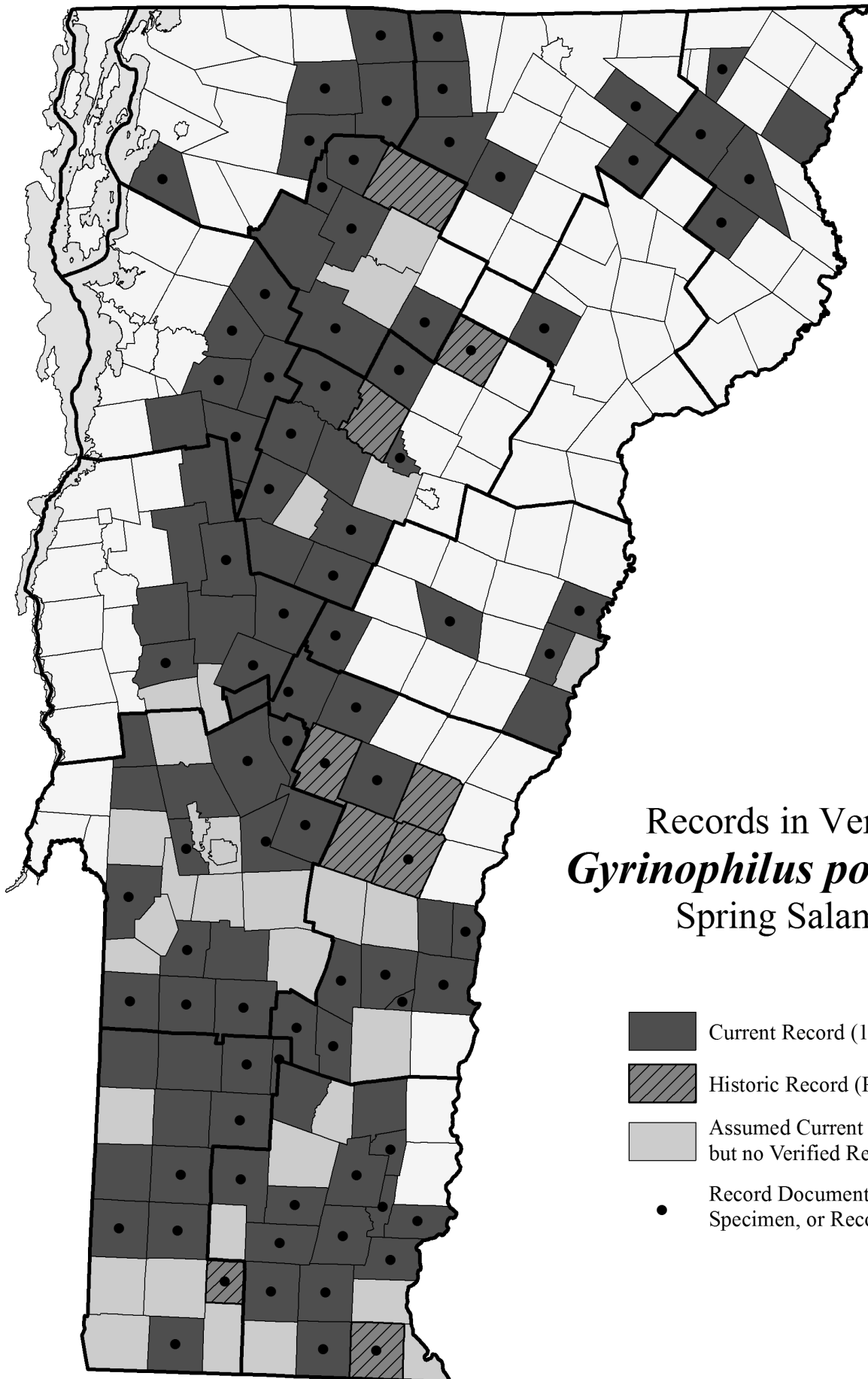
Salamanders







Salamanders



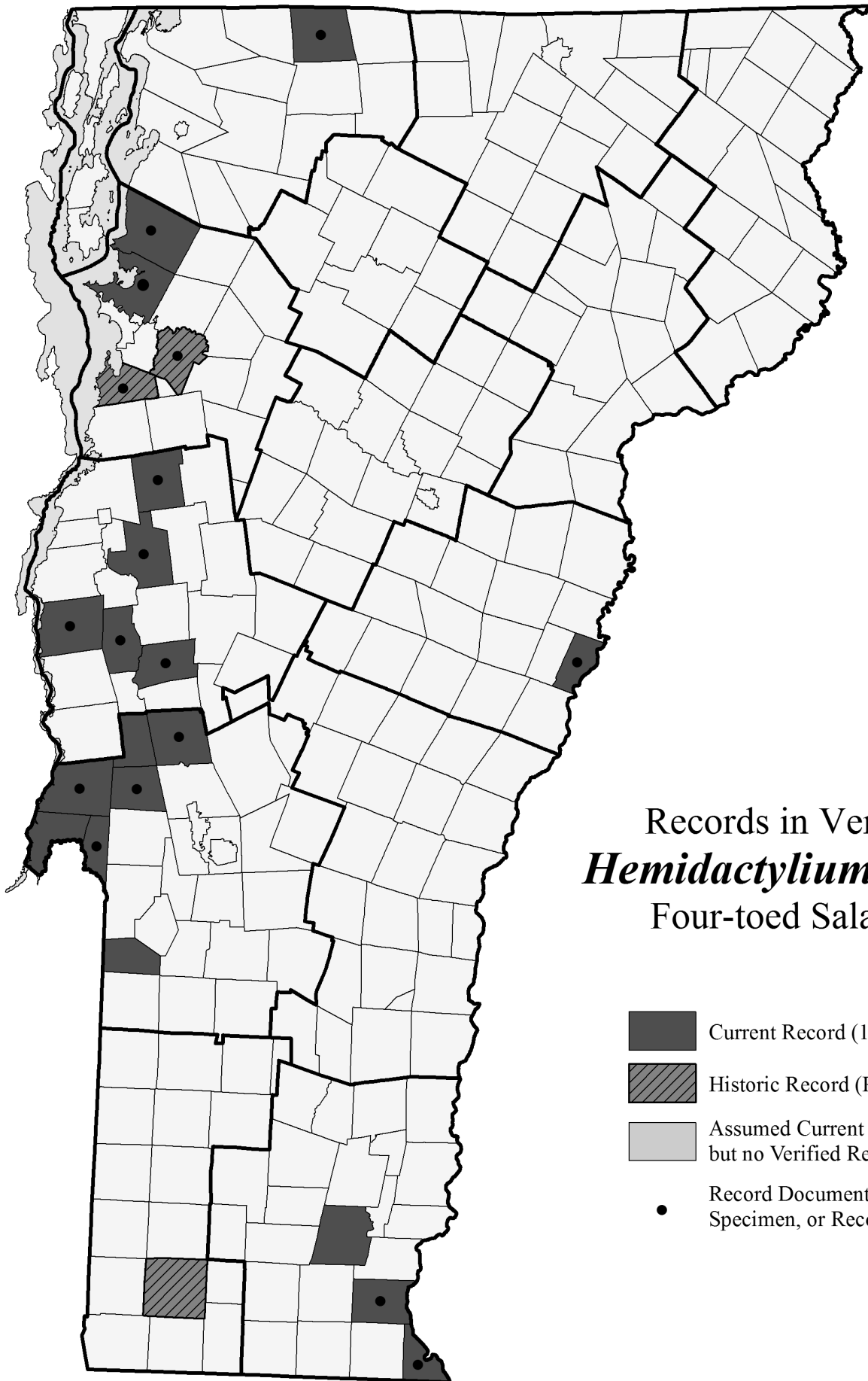
Salamanders







Records in Vermont of *Gyrinophilus porphyriticus* Spring Salamander

-  Current Record (1986 through 2010)
-  Historic Record (Prior to 1986)
-  Assumed Current Presence
but no Verified Records
-  Record Documented with Photo,
Specimen, or Recording

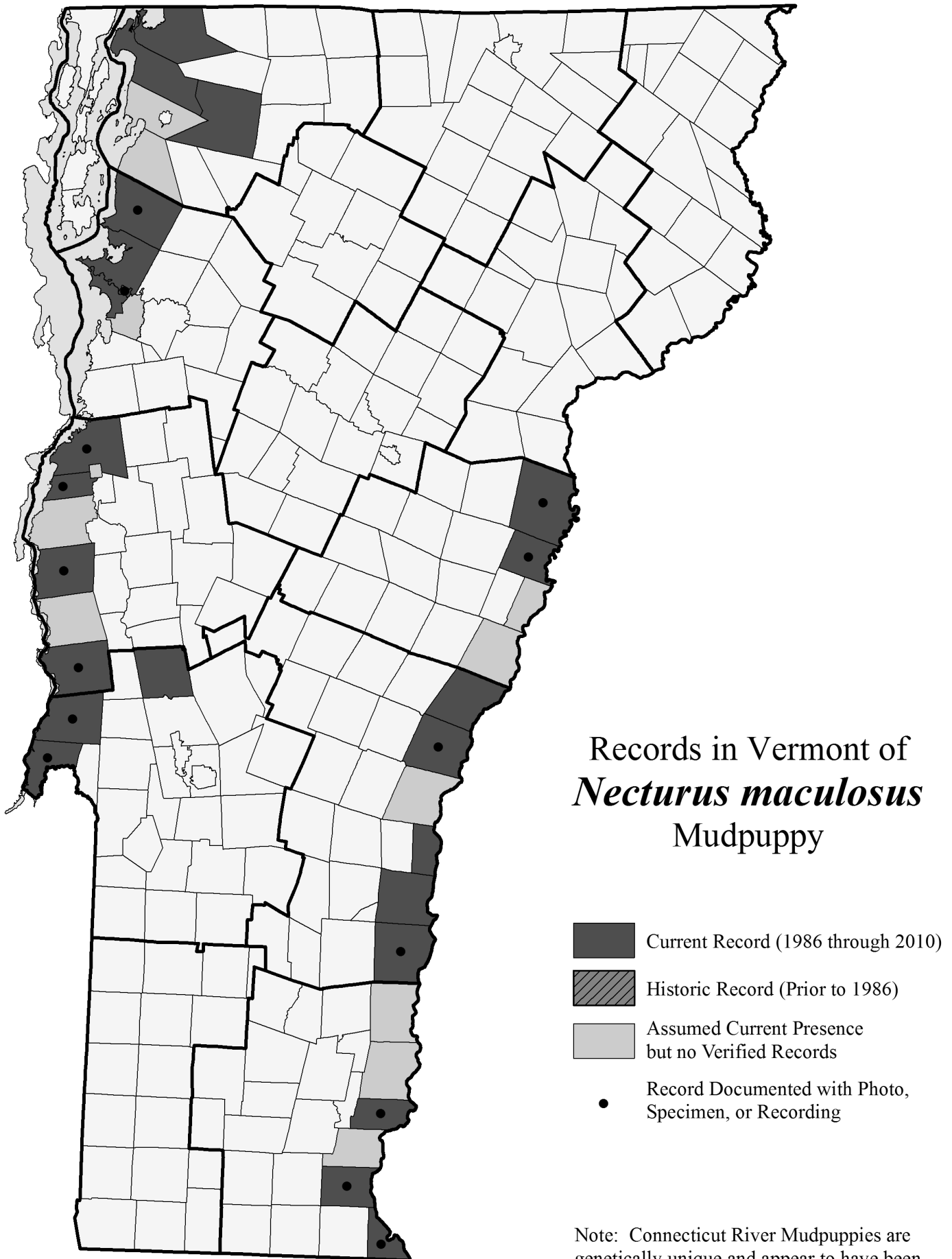
Salamanders



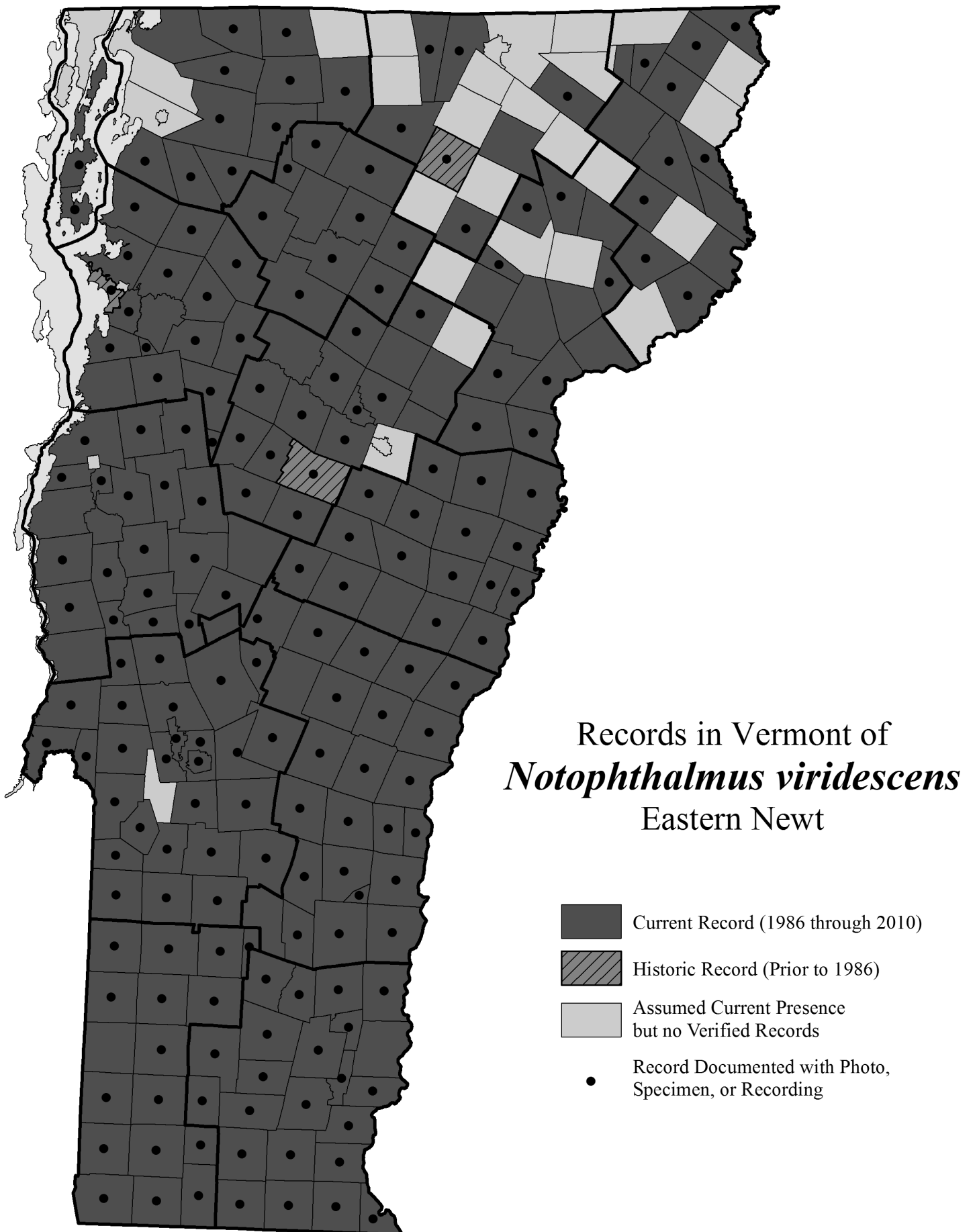
Records in Vermont of *Hemidactylium scutatum* Four-toed Salamander

-  Current Record (1986 through 2010)
-  Historic Record (Prior to 1986)
-  Assumed Current Presence but no Verified Records
-  Record Documented with Photo, Specimen, or Recording

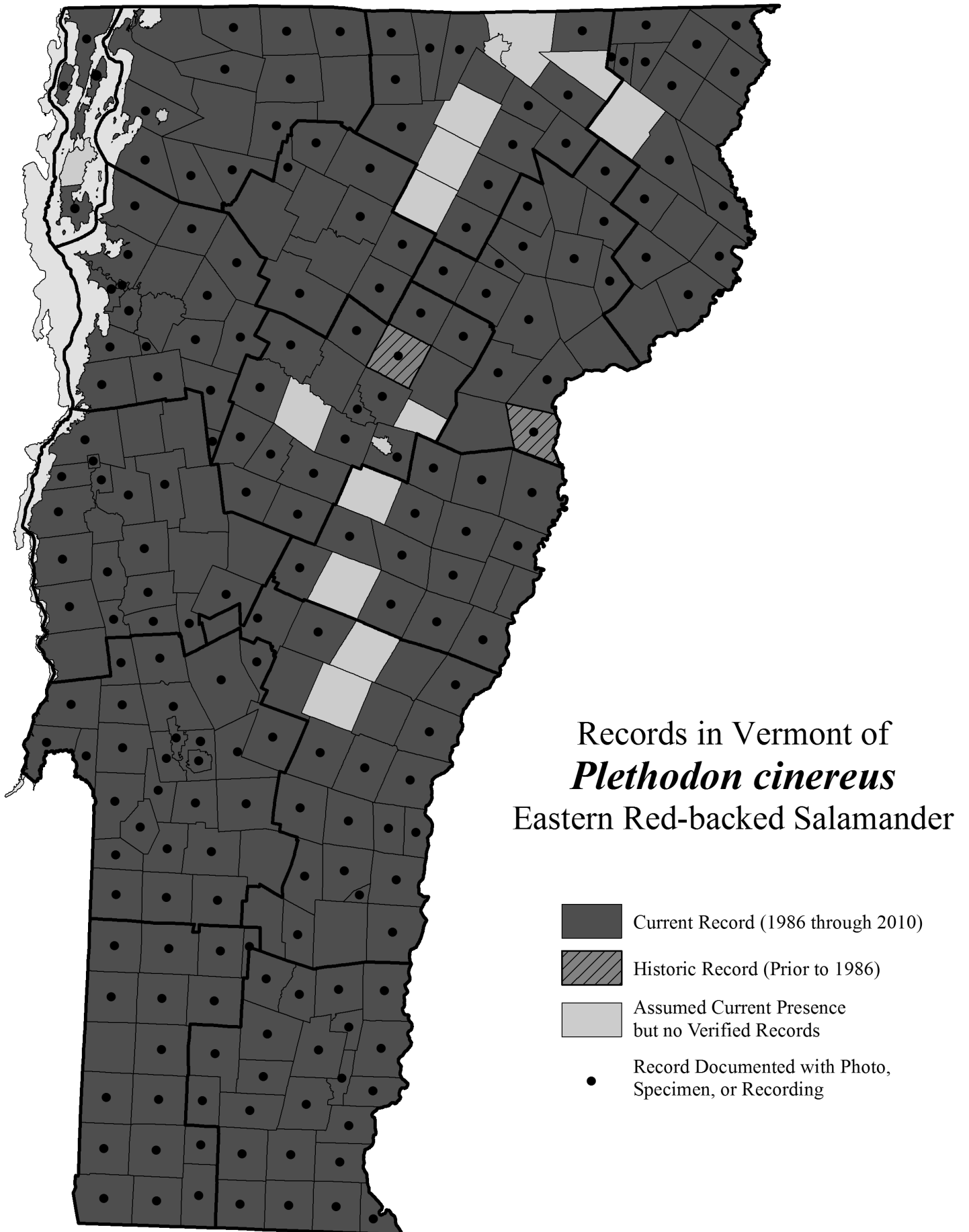
Salamanders



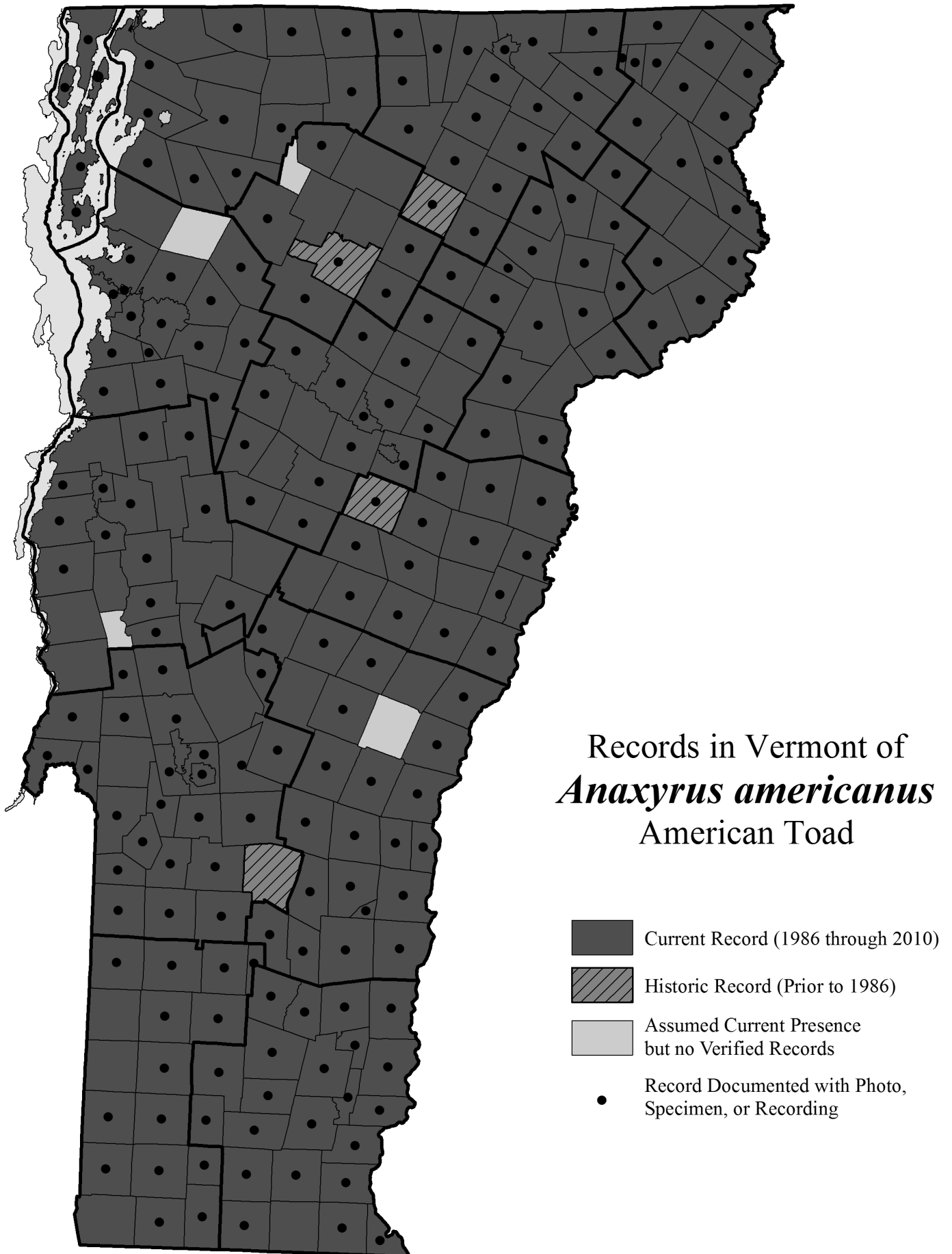
Salamanders



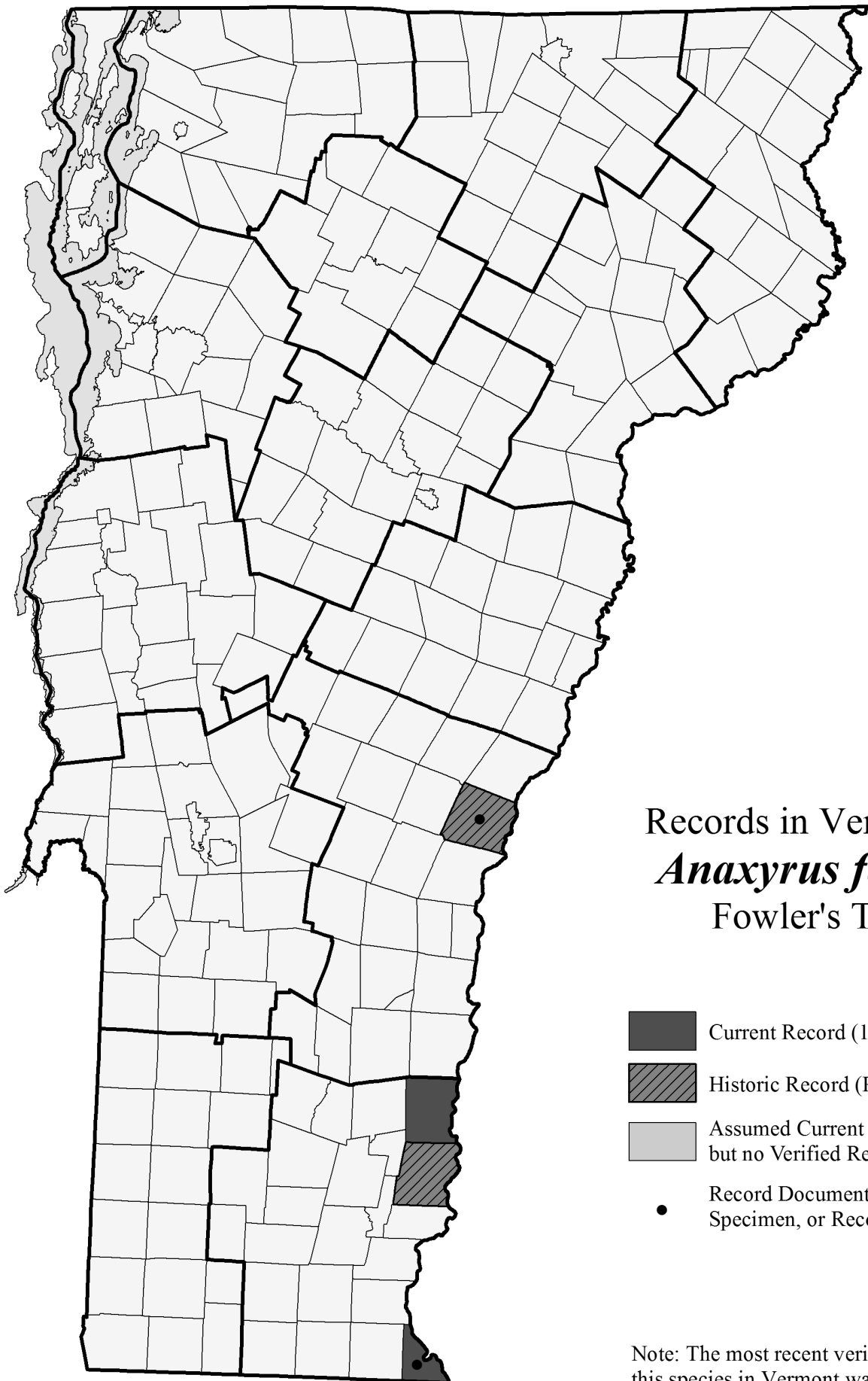
Salamanders







Frogs & Toads



Frogs & Toads

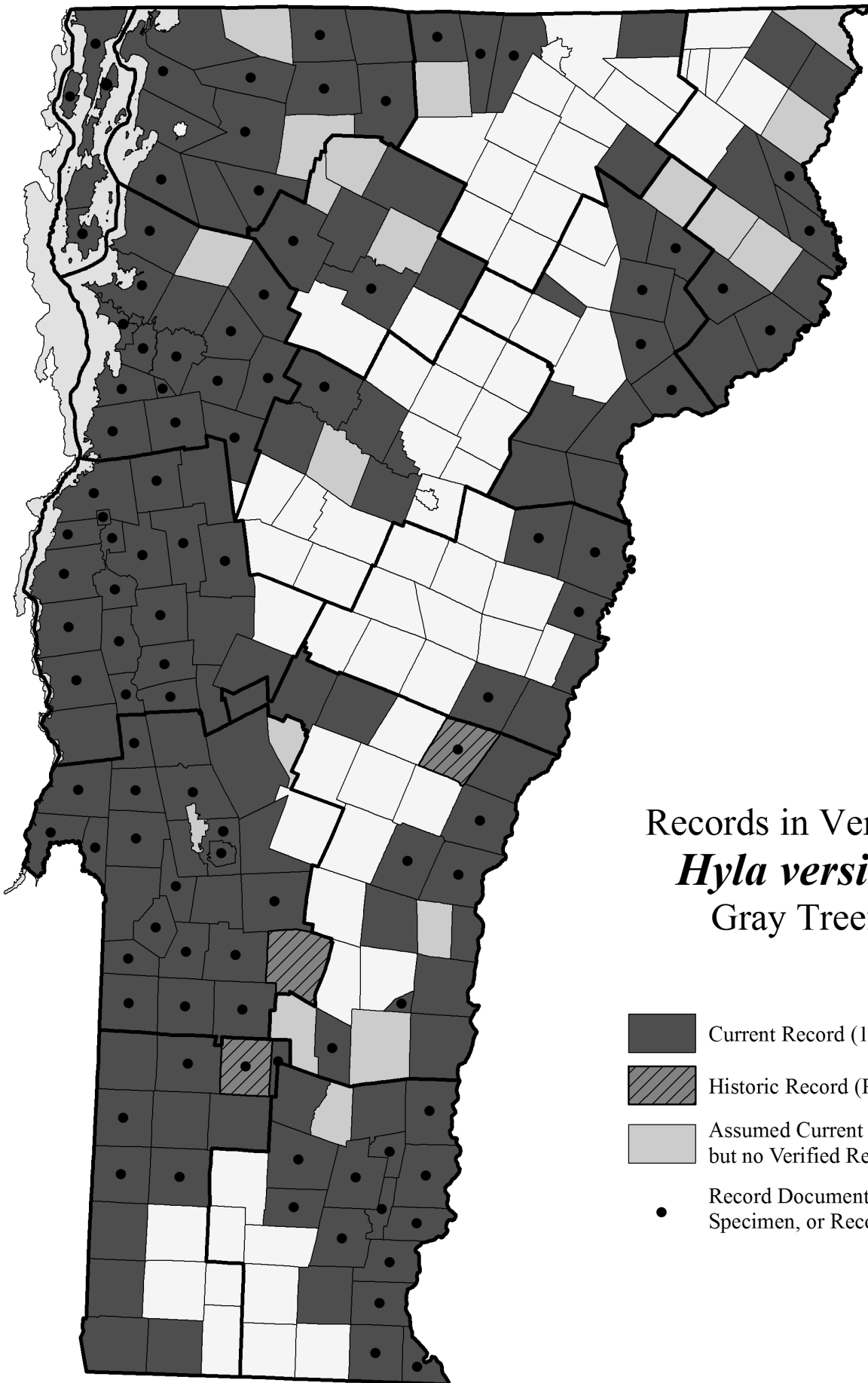


Records in Vermont of *Anaxyrus fowleri* Fowler's Toad

-  Current Record (1986 through 2010)
-  Historic Record (Prior to 1986)
-  Assumed Current Presence but no Verified Records
-  Record Documented with Photo, Specimen, or Recording

Note: The most recent verified report of this species in Vermont was in 2007.

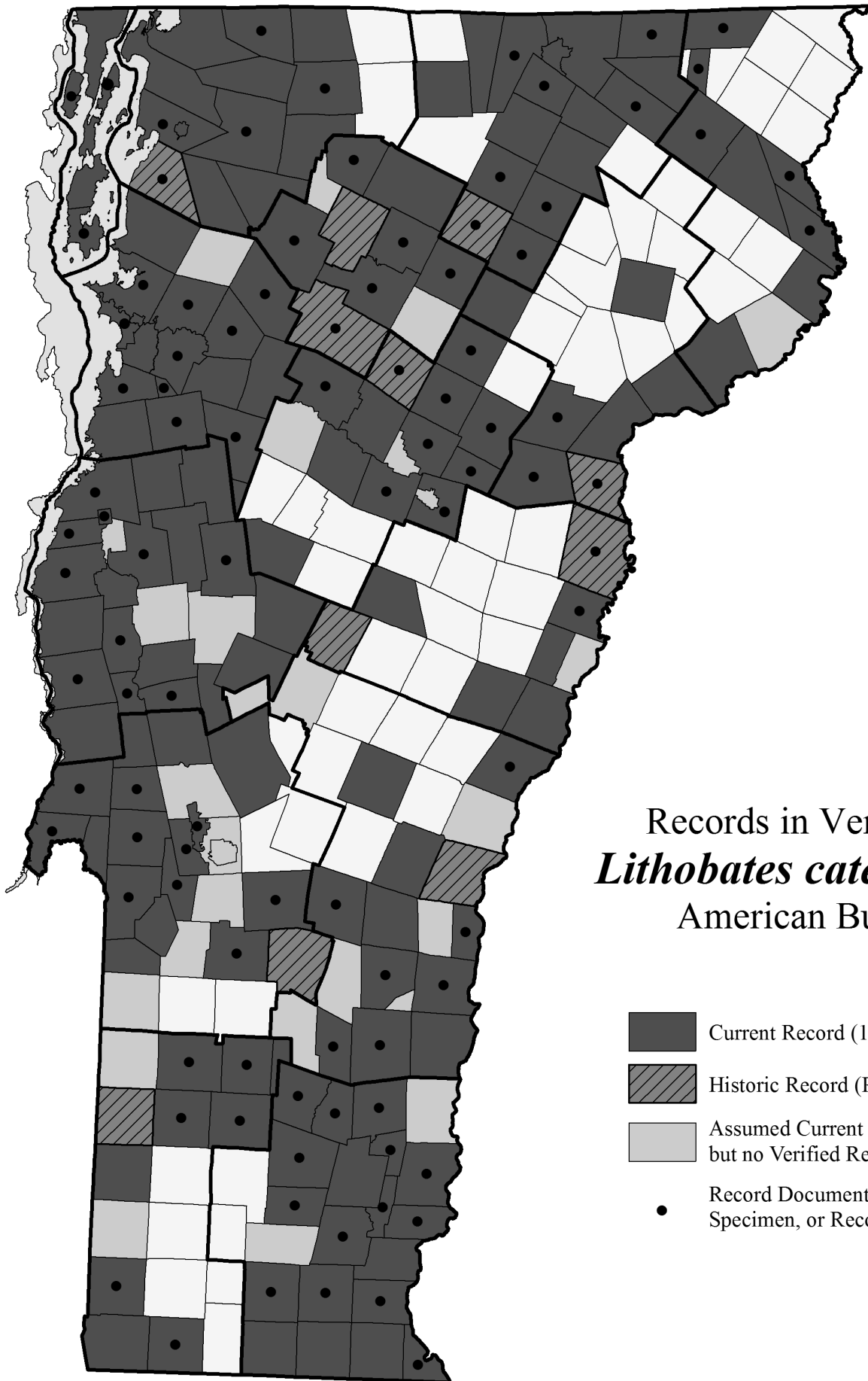
Frogs & Toads



Records in Vermont of *Hyla versicolor* Gray Treefrog

- Current Record (1986 through 2010)
- ▨ Historic Record (Prior to 1986)
- Assumed Current Presence but no Verified Records
- Record Documented with Photo, Specimen, or Recording

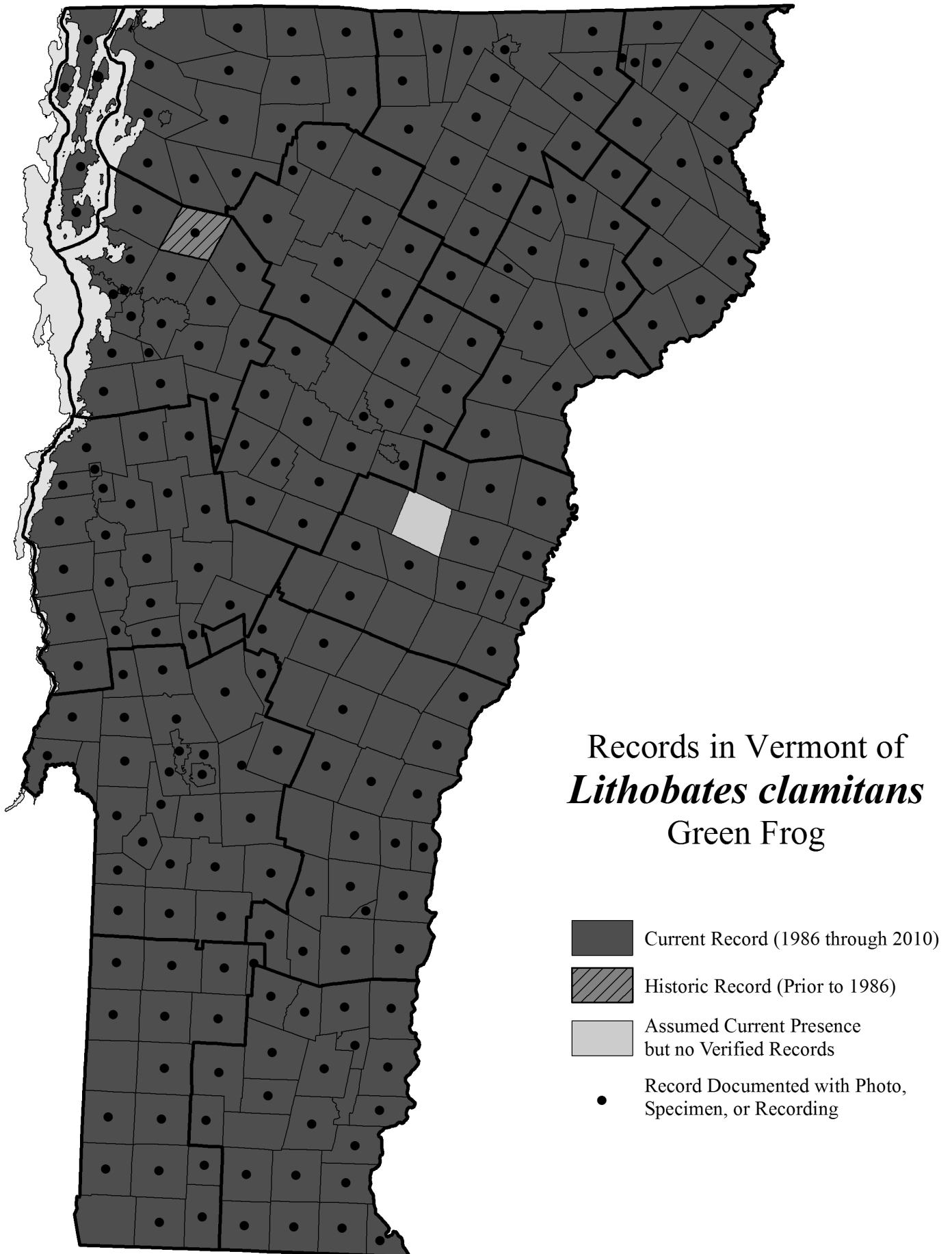
Frogs & Toads



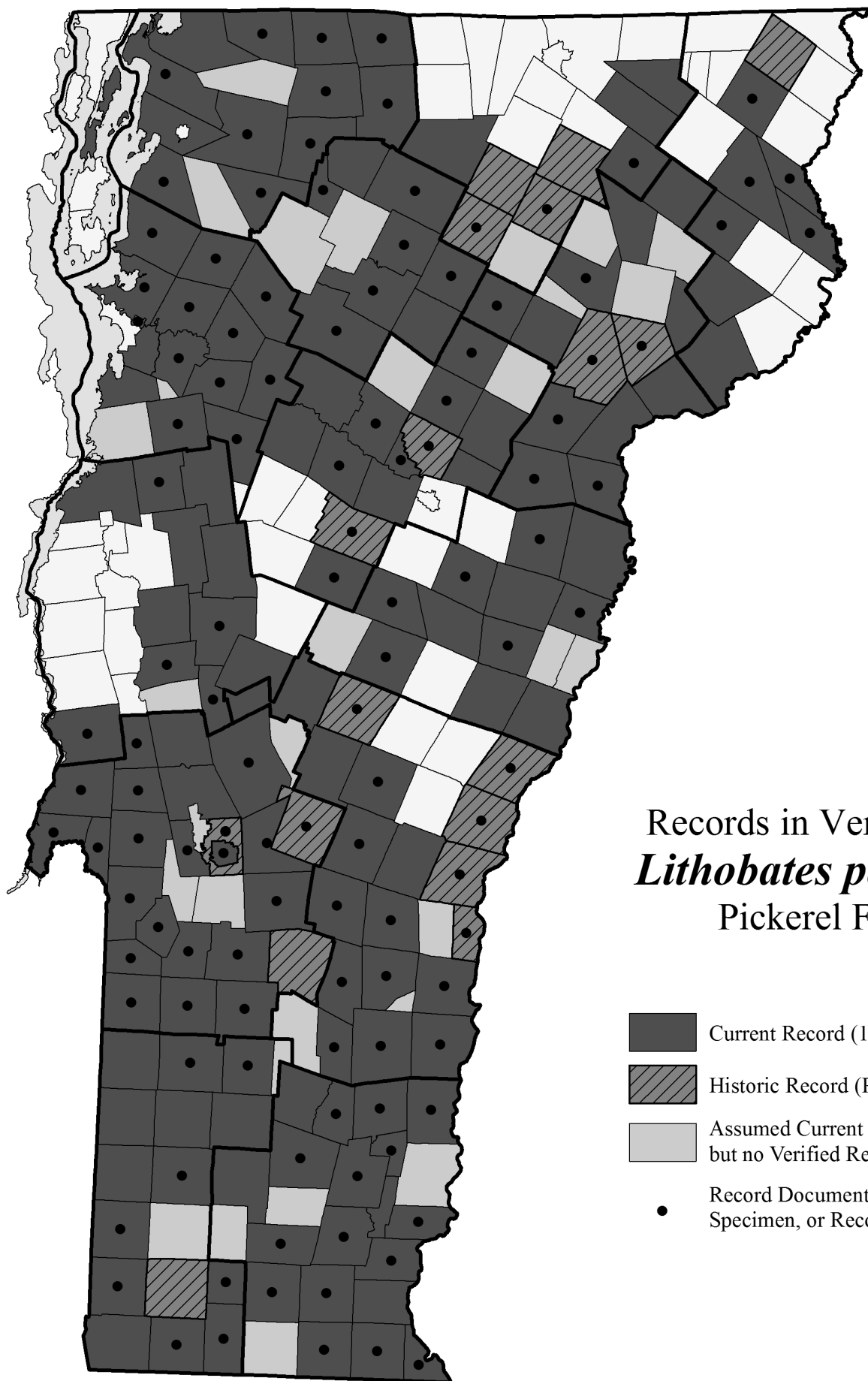
Records in Vermont of *Lithobates catesbeianus* American Bullfrog

- Current Record (1986 through 2010)
- Historic Record (Prior to 1986)
- Assumed Current Presence but no Verified Records
- Record Documented with Photo, Specimen, or Recording

Frogs & Toads



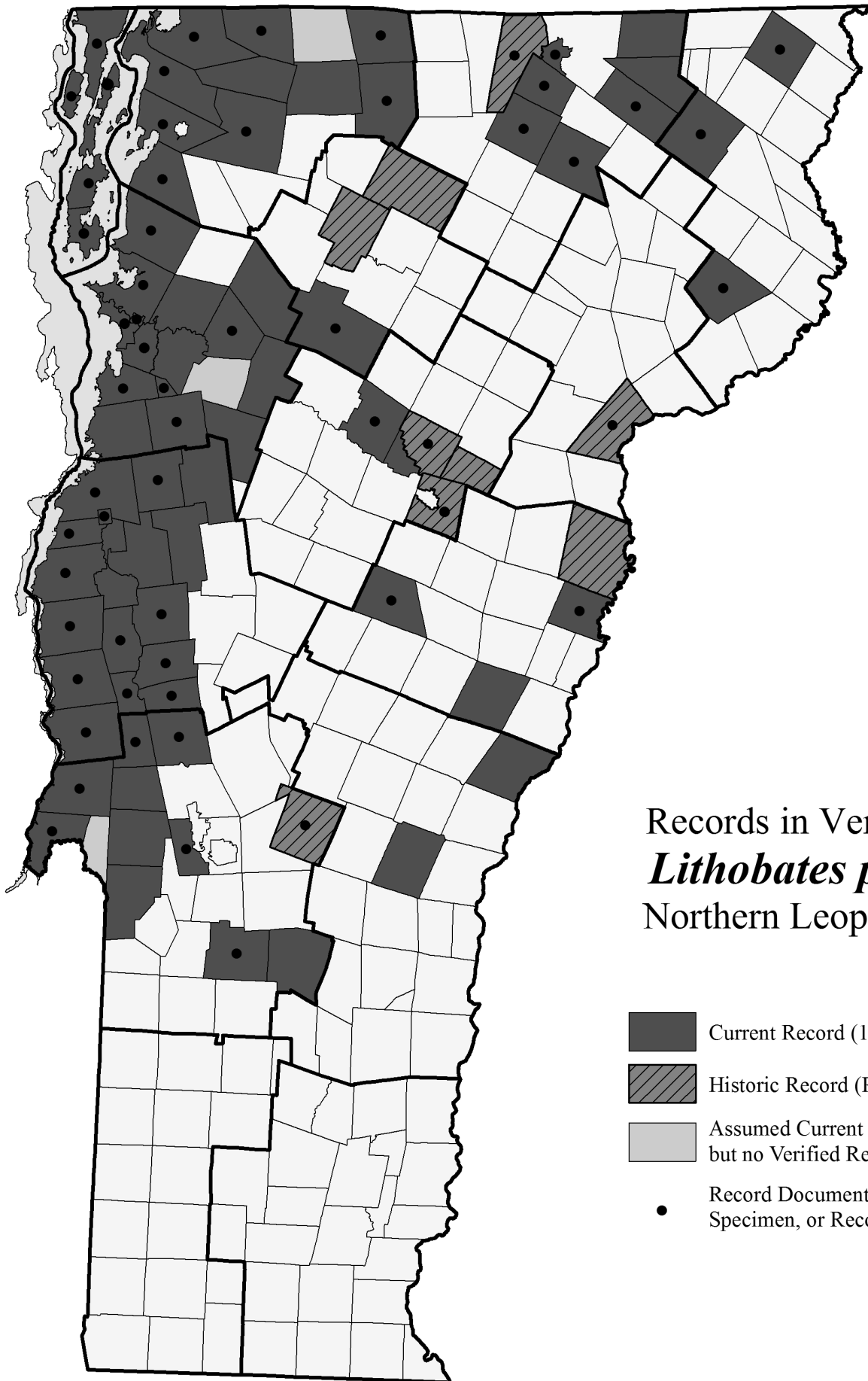
Frogs & Toads







Records in Vermont of
Lithobates palustris
Pickerel Frog

- Current Record (1986 through 2010)
- Historic Record (Prior to 1986)
- Assumed Current Presence but no Verified Records
- Record Documented with Photo, Specimen, or Recording

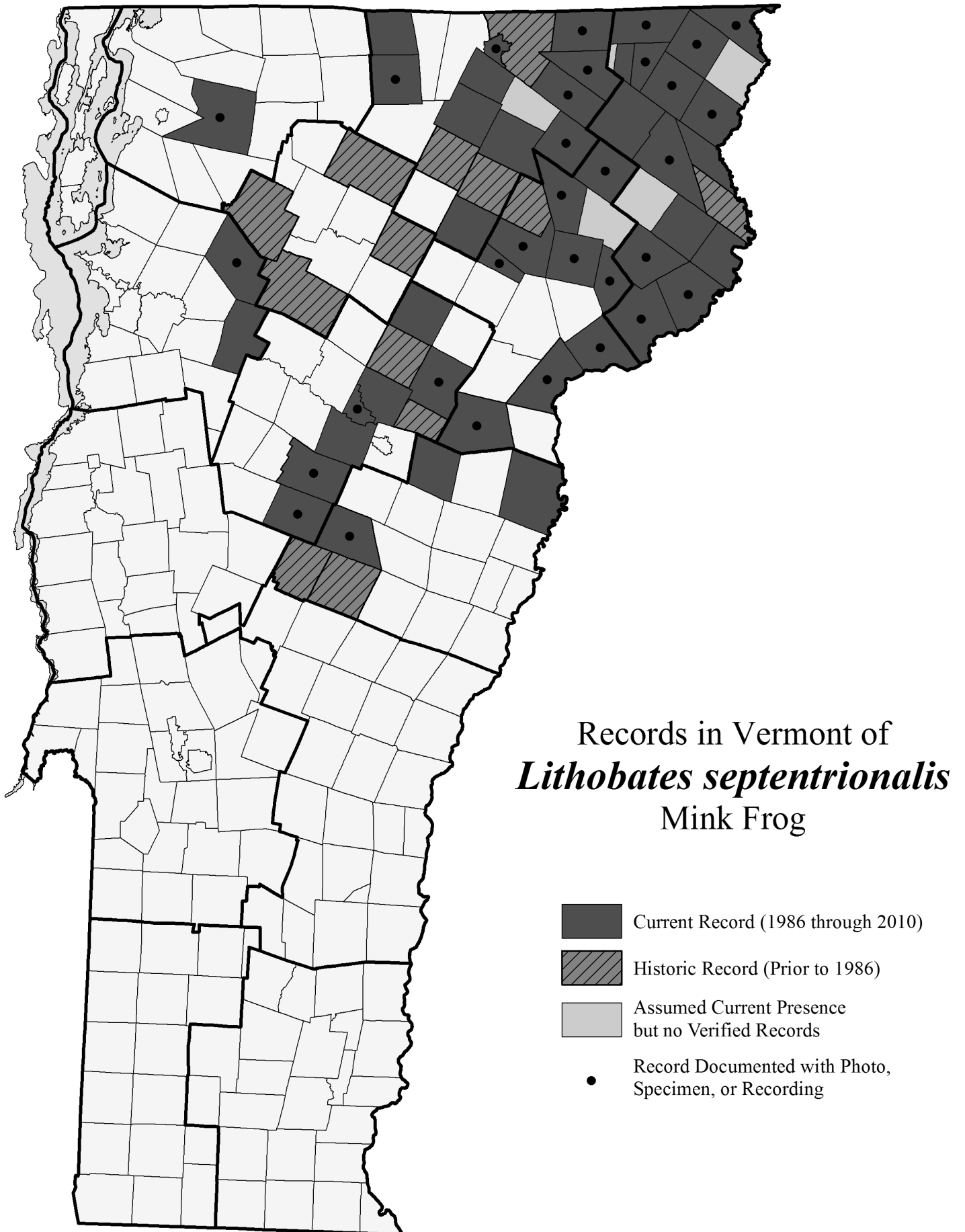
Frogs & Toads



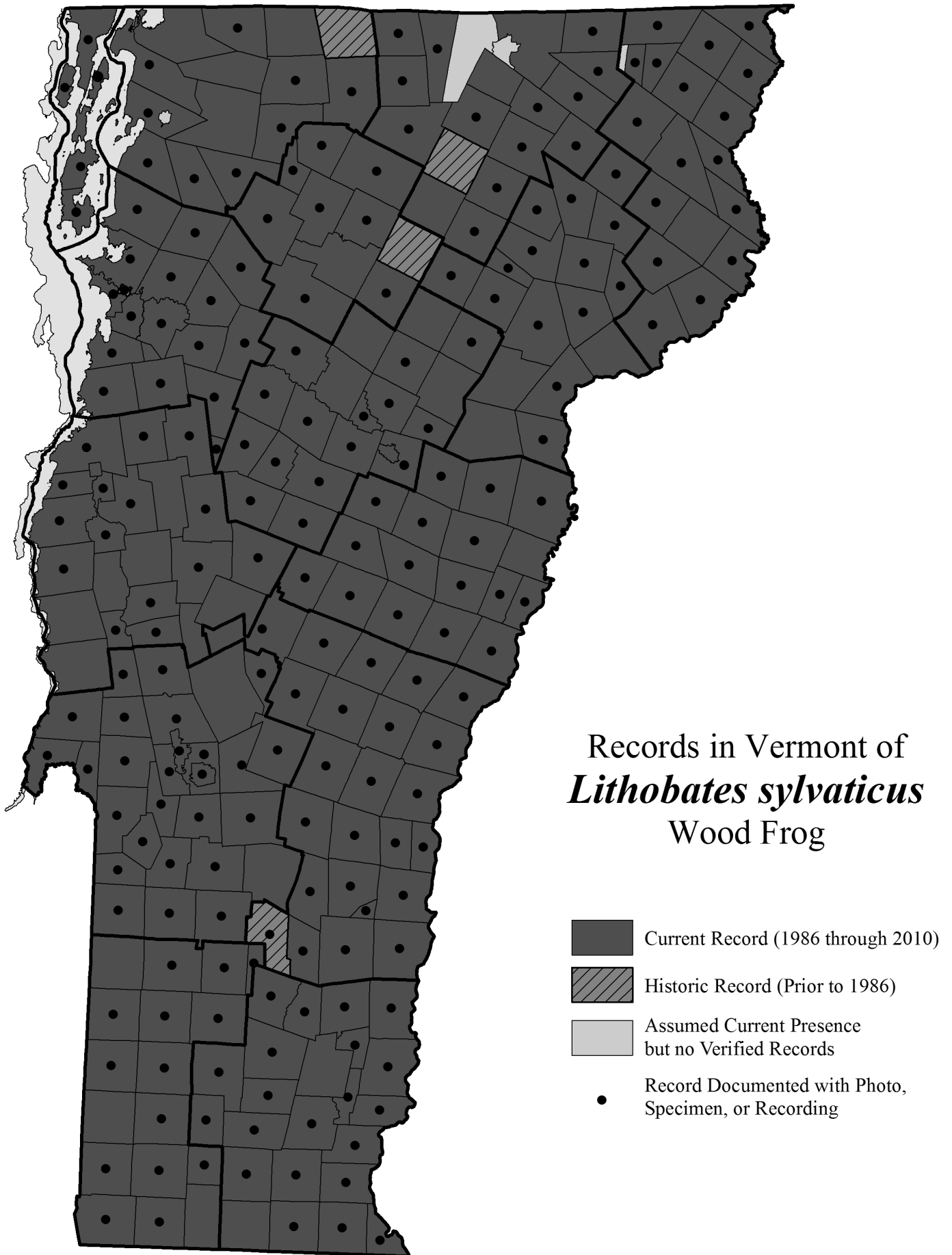
Records in Vermont of *Lithobates pipiens* Northern Leopard Frog

-  Current Record (1986 through 2010)
-  Historic Record (Prior to 1986)
-  Assumed Current Presence
but no Verified Records
-  Record Documented with Photo,
Specimen, or Recording

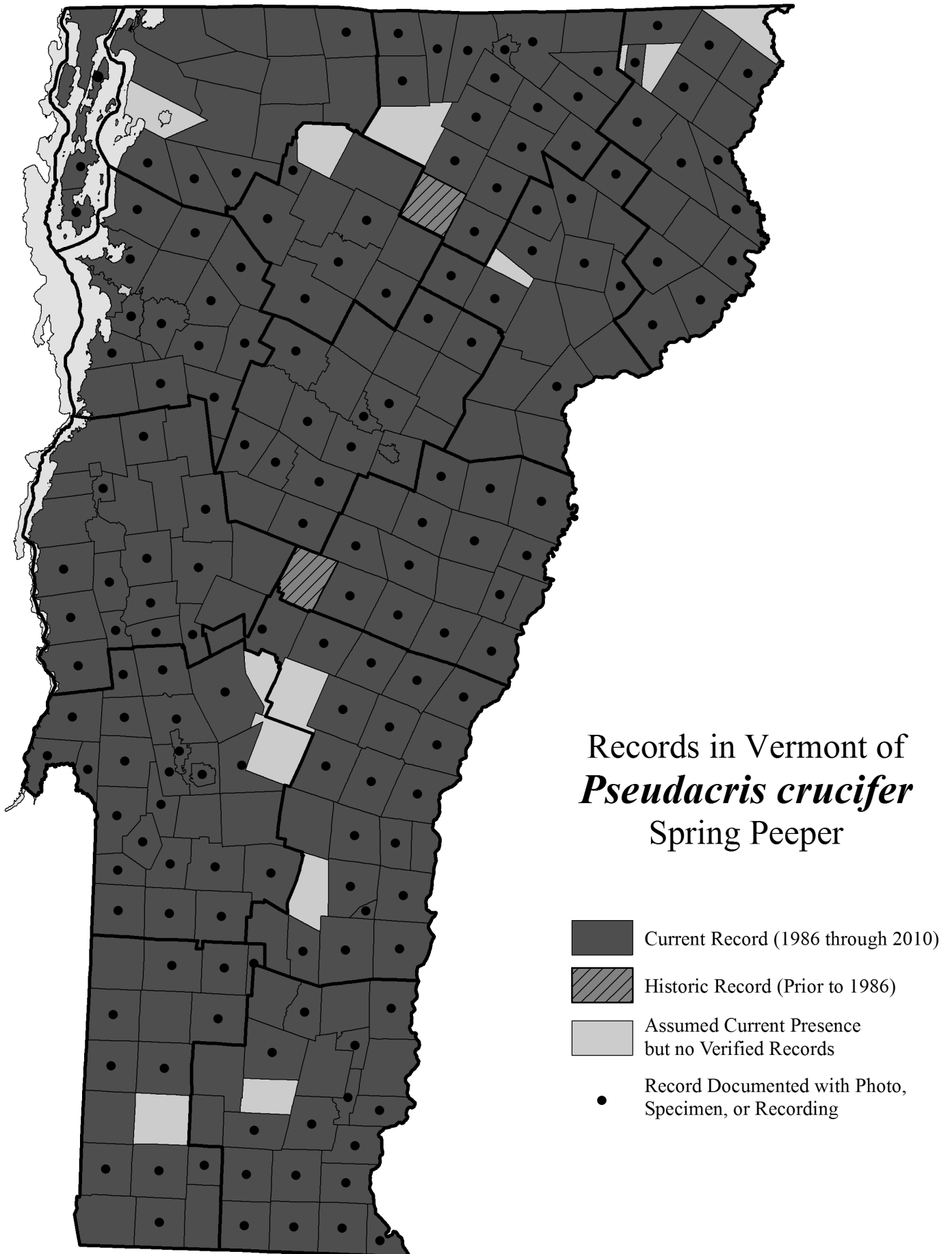
Frogs & Toads



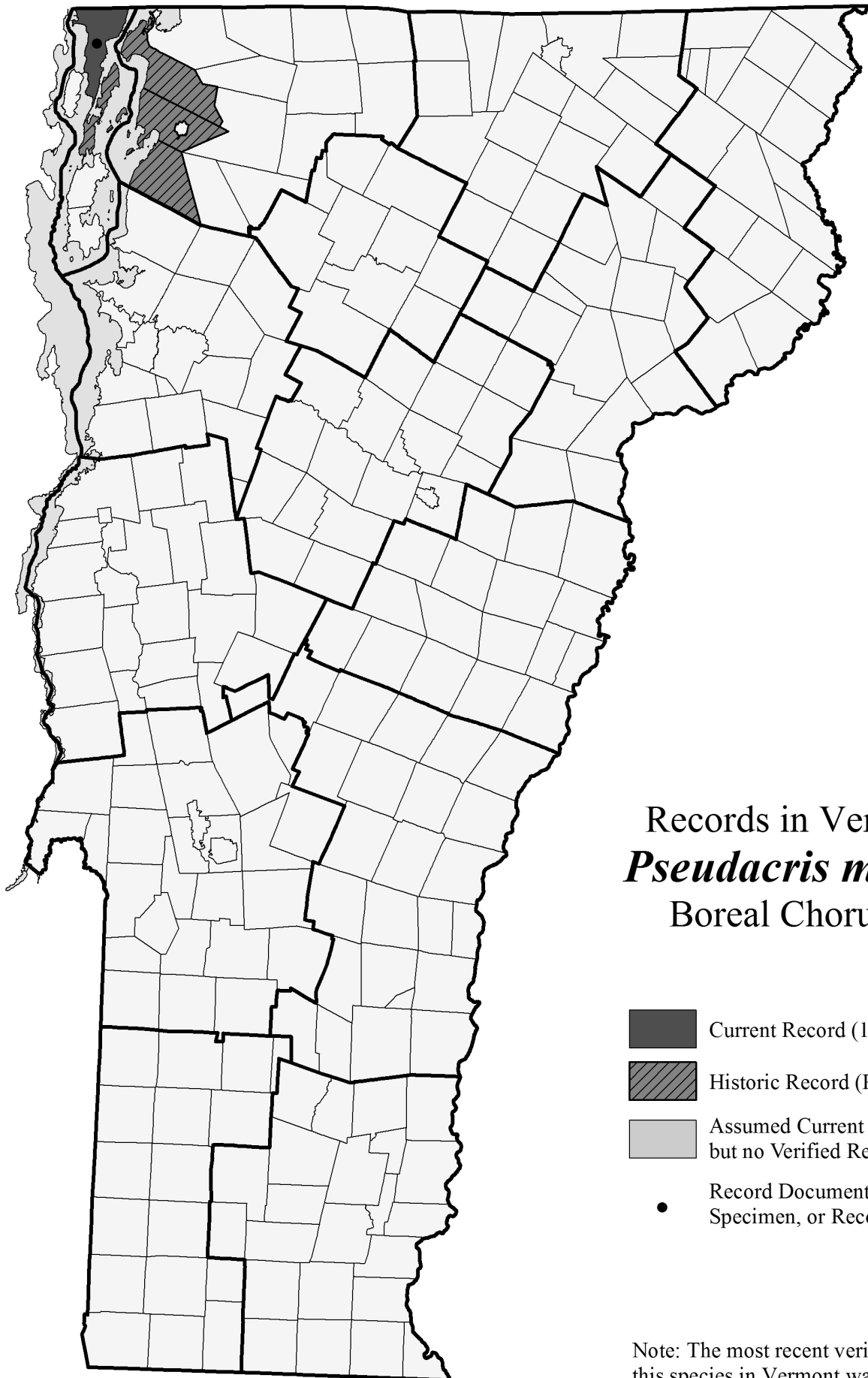
Frogs & Toads



Frogs & Toads

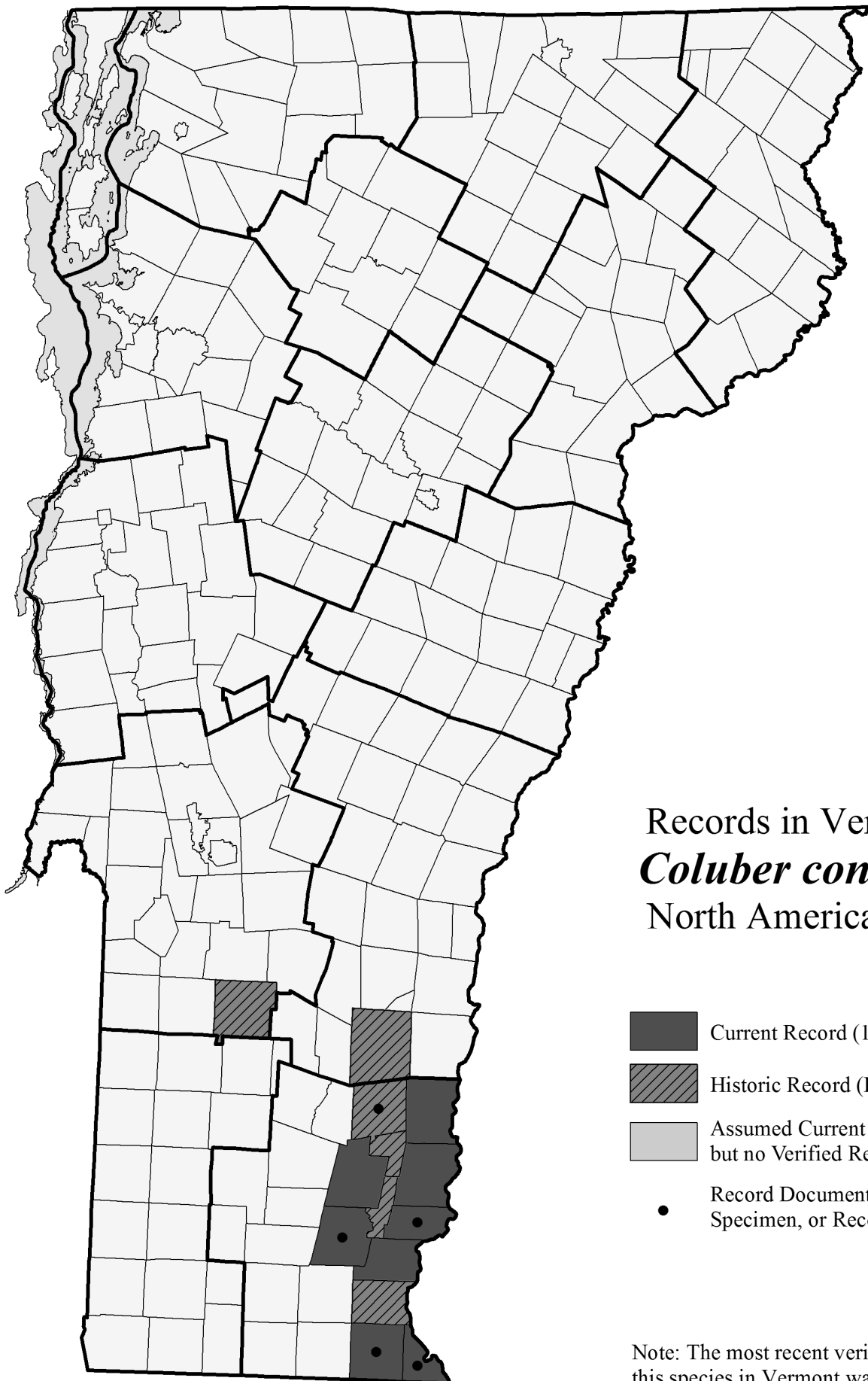


Frogs & Toads







Note: The most recent verified report of this species in Vermont was in 1999.

Snakes

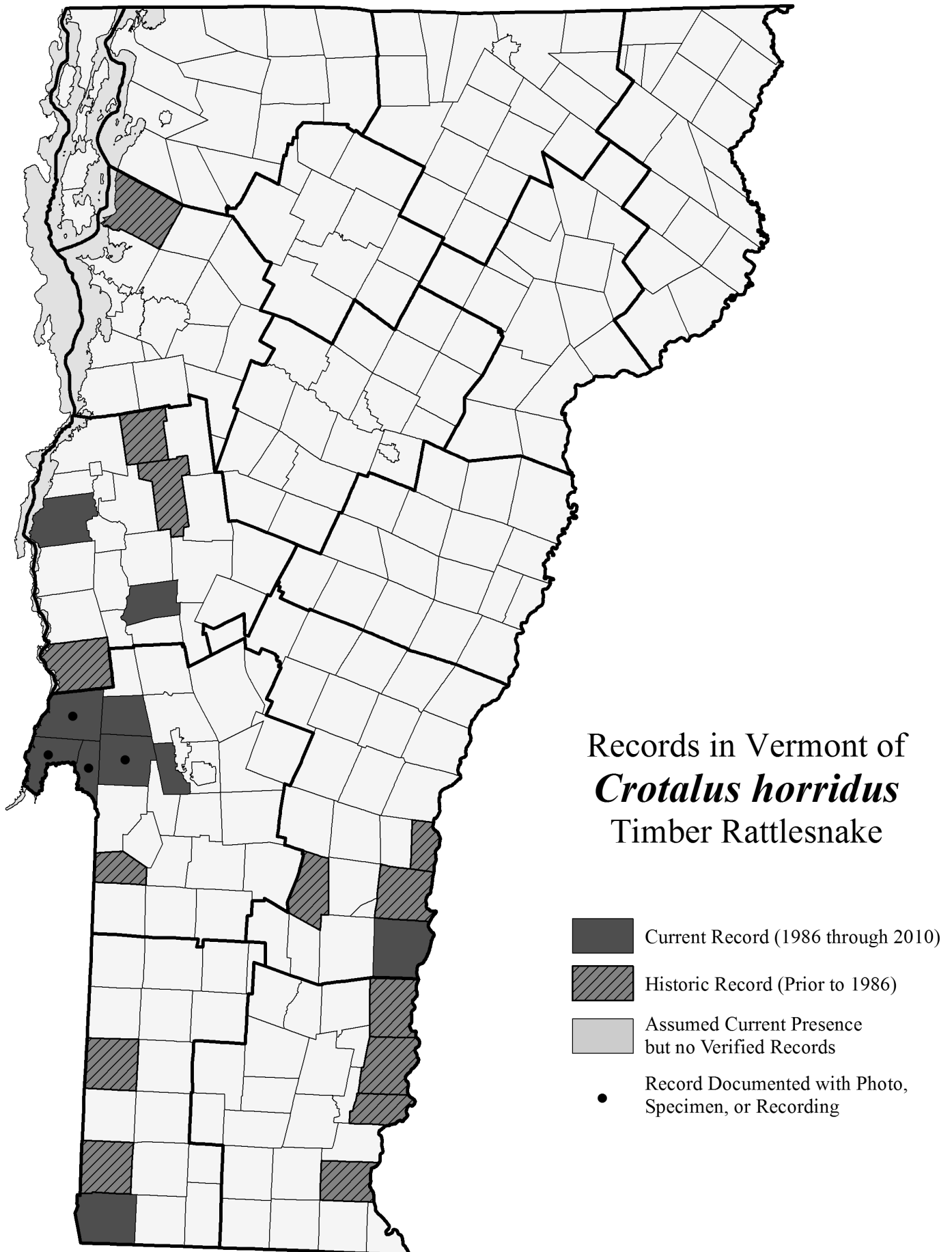


Records in Vermont of *Coluber constrictor* North American Racer

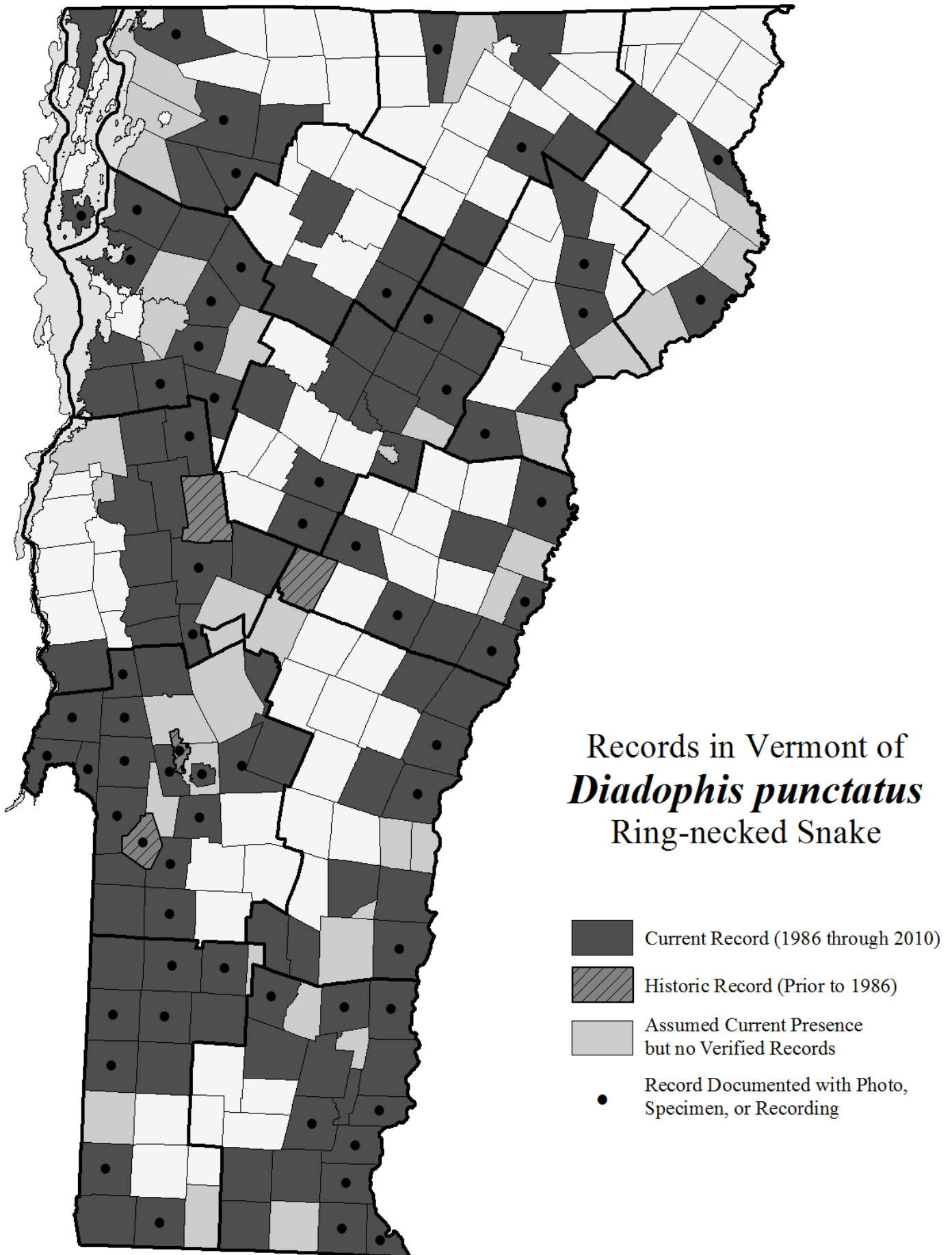
-  Current Record (1986 through 2010)
-  Historic Record (Prior to 1986)
-  Assumed Current Presence but no Verified Records
-  Record Documented with Photo, Specimen, or Recording

Note: The most recent verified report of this species in Vermont was in 2008.

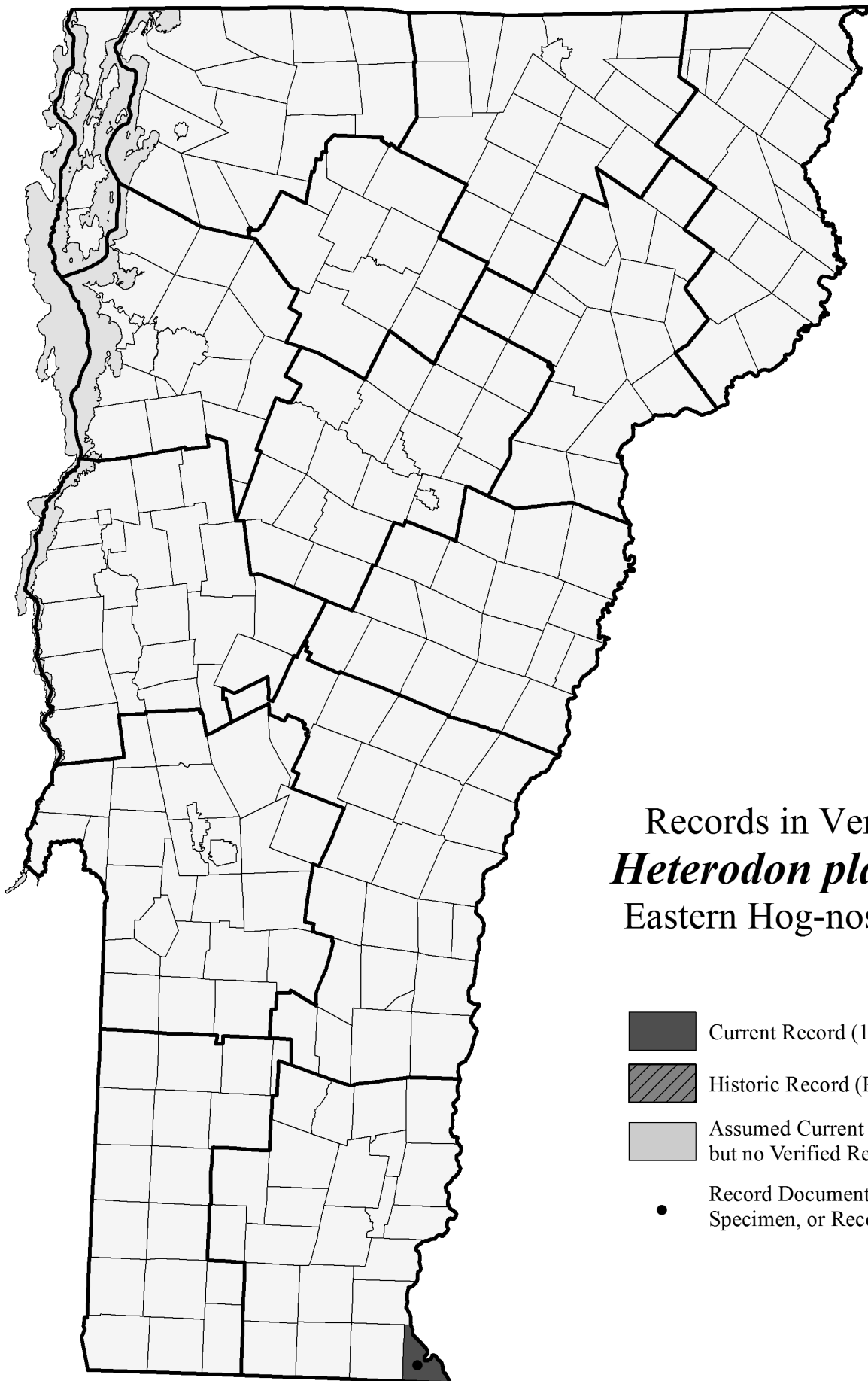
Snakes







Snakes



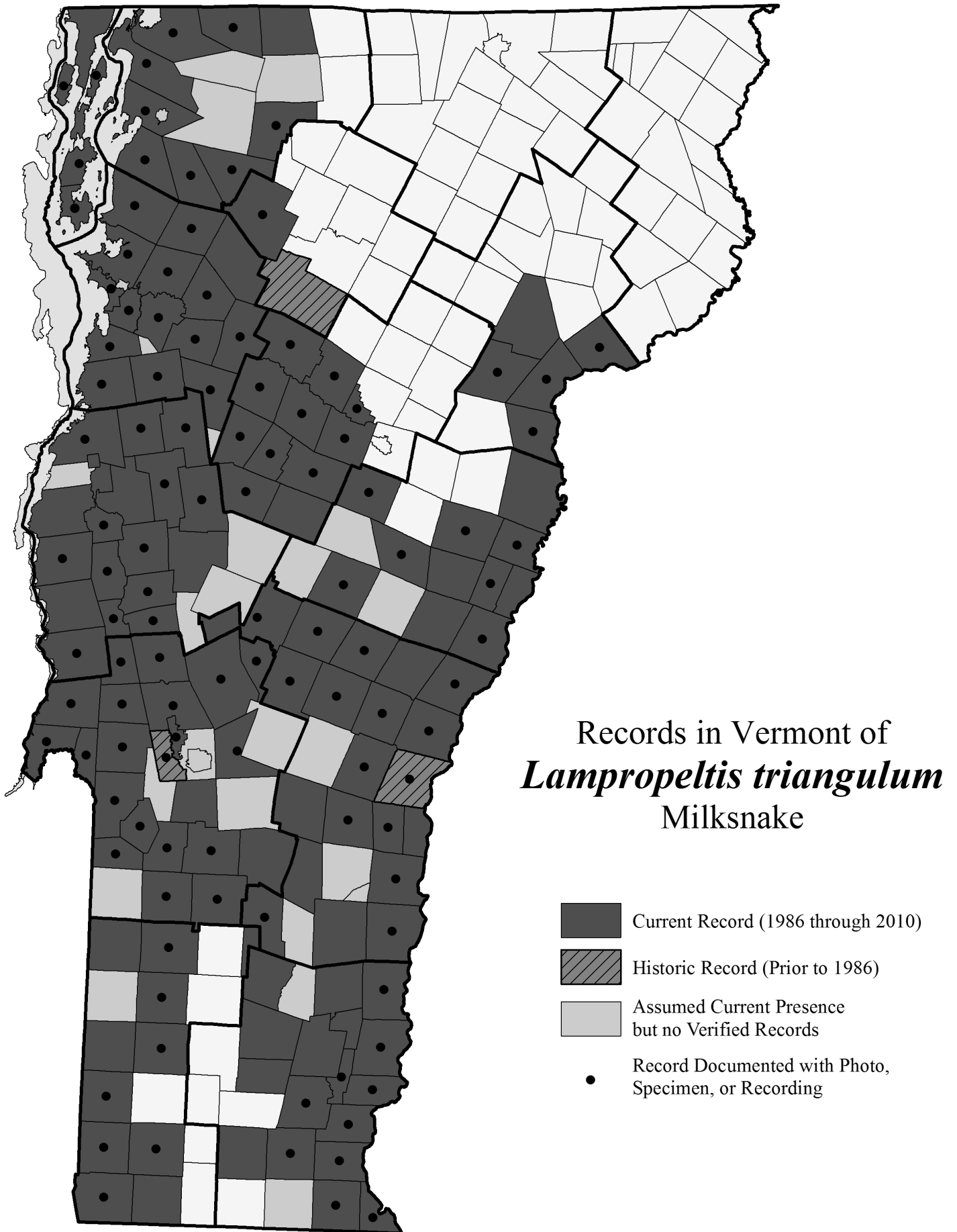
Snakes



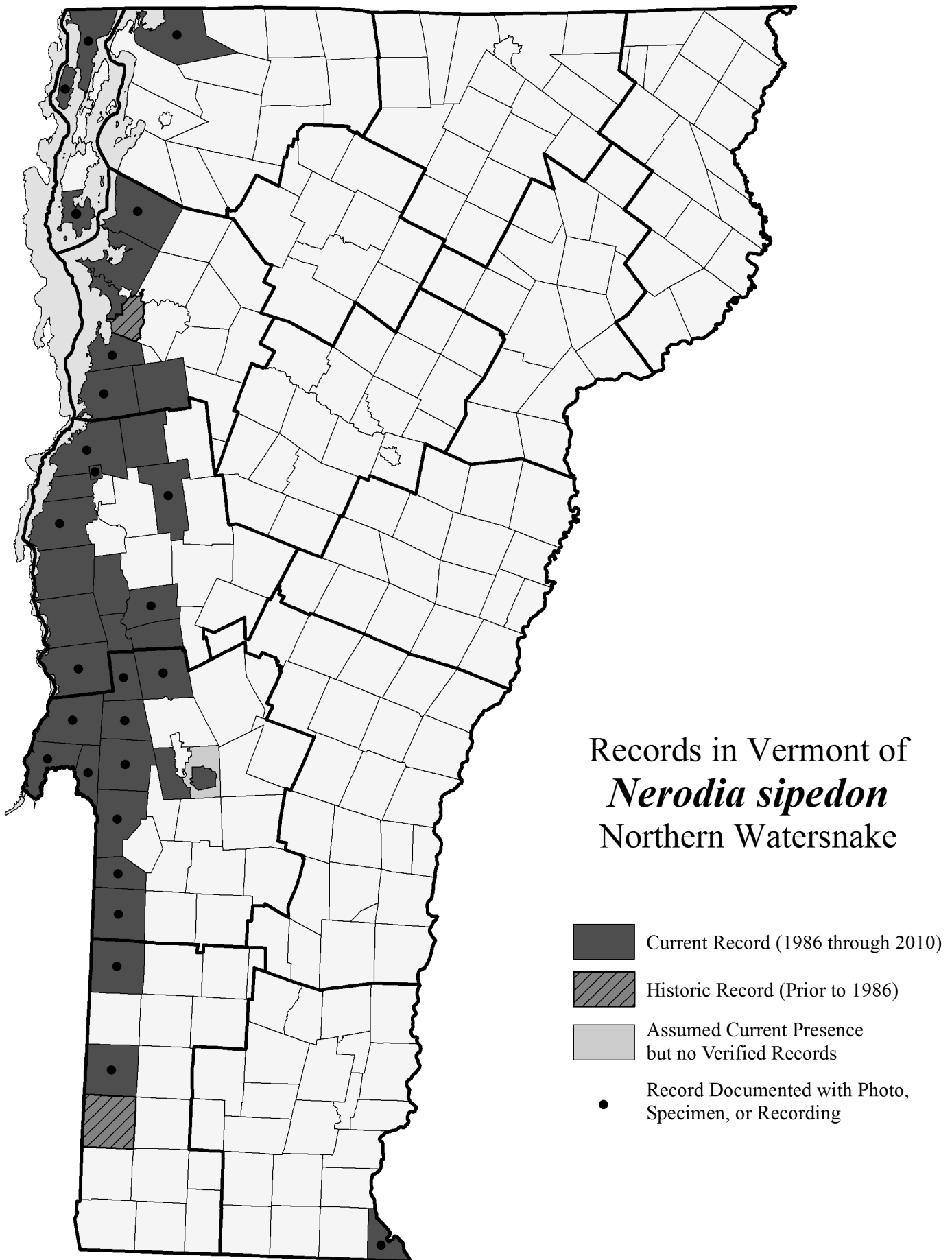
Records in Vermont of *Heterodon platirhinos* Eastern Hog-nosed Snake

-  Current Record (1986 through 2010)
-  Historic Record (Prior to 1986)
-  Assumed Current Presence
but no Verified Records
-  Record Documented with Photo,
Specimen, or Recording

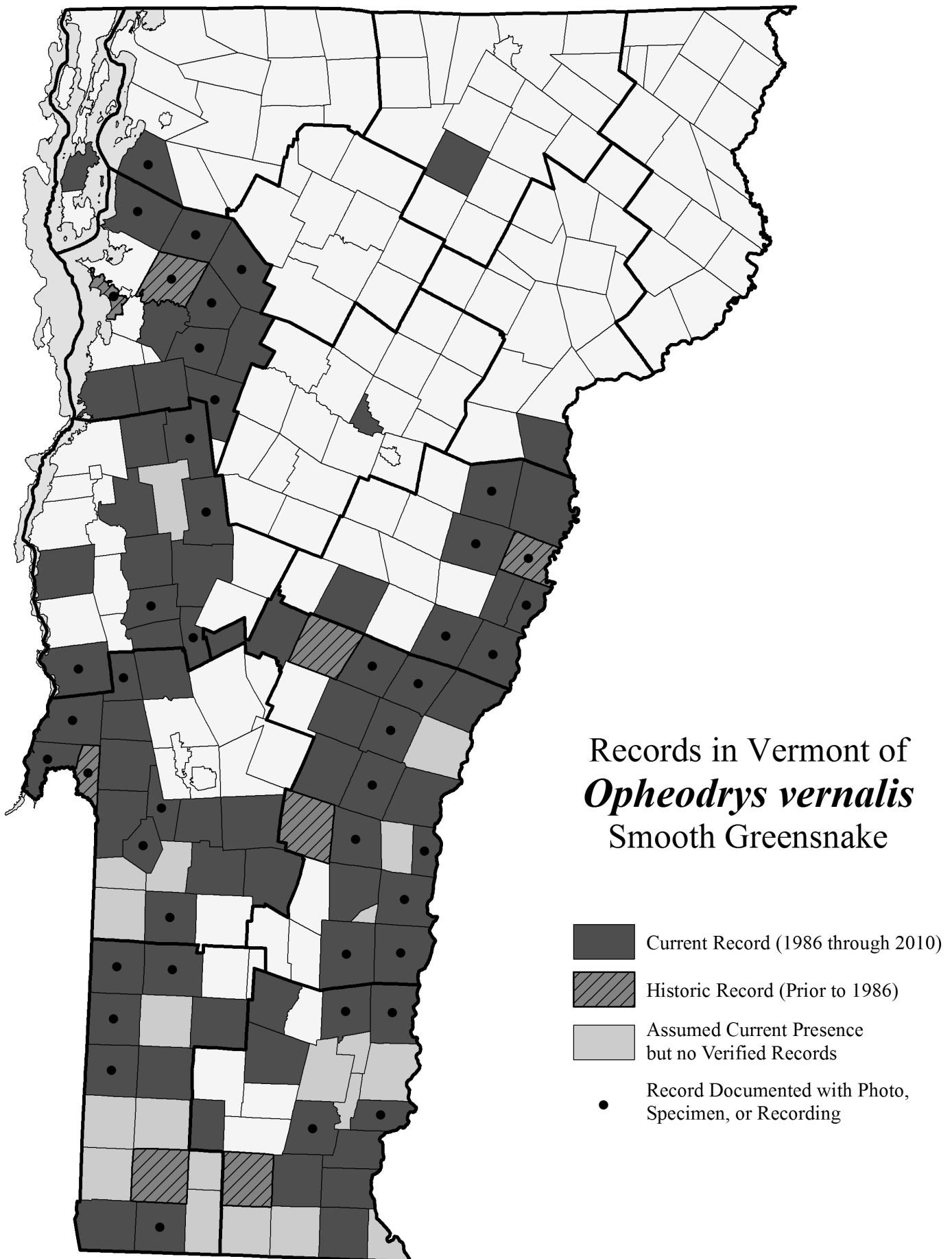
Snakes



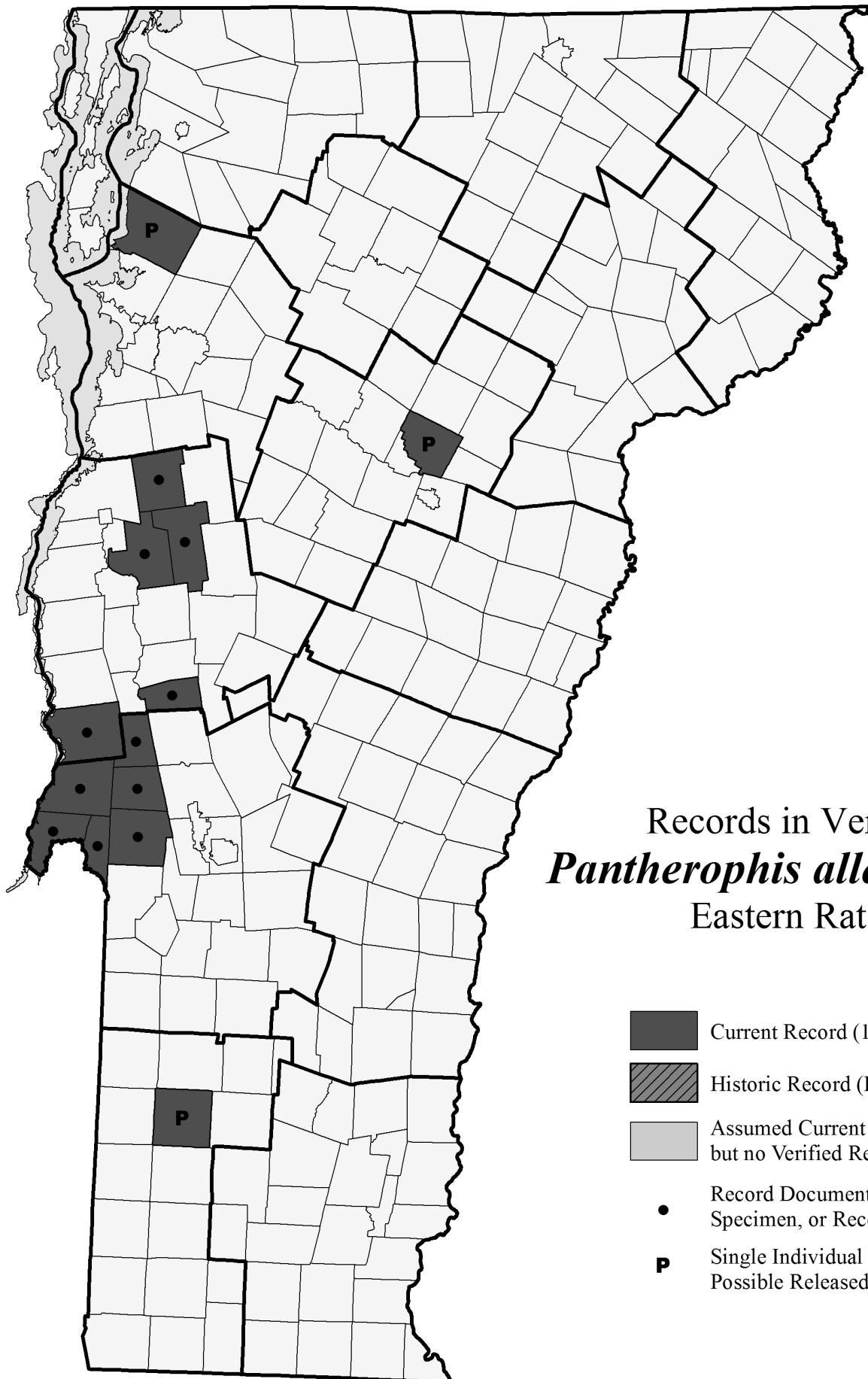
Snakes








Snakes



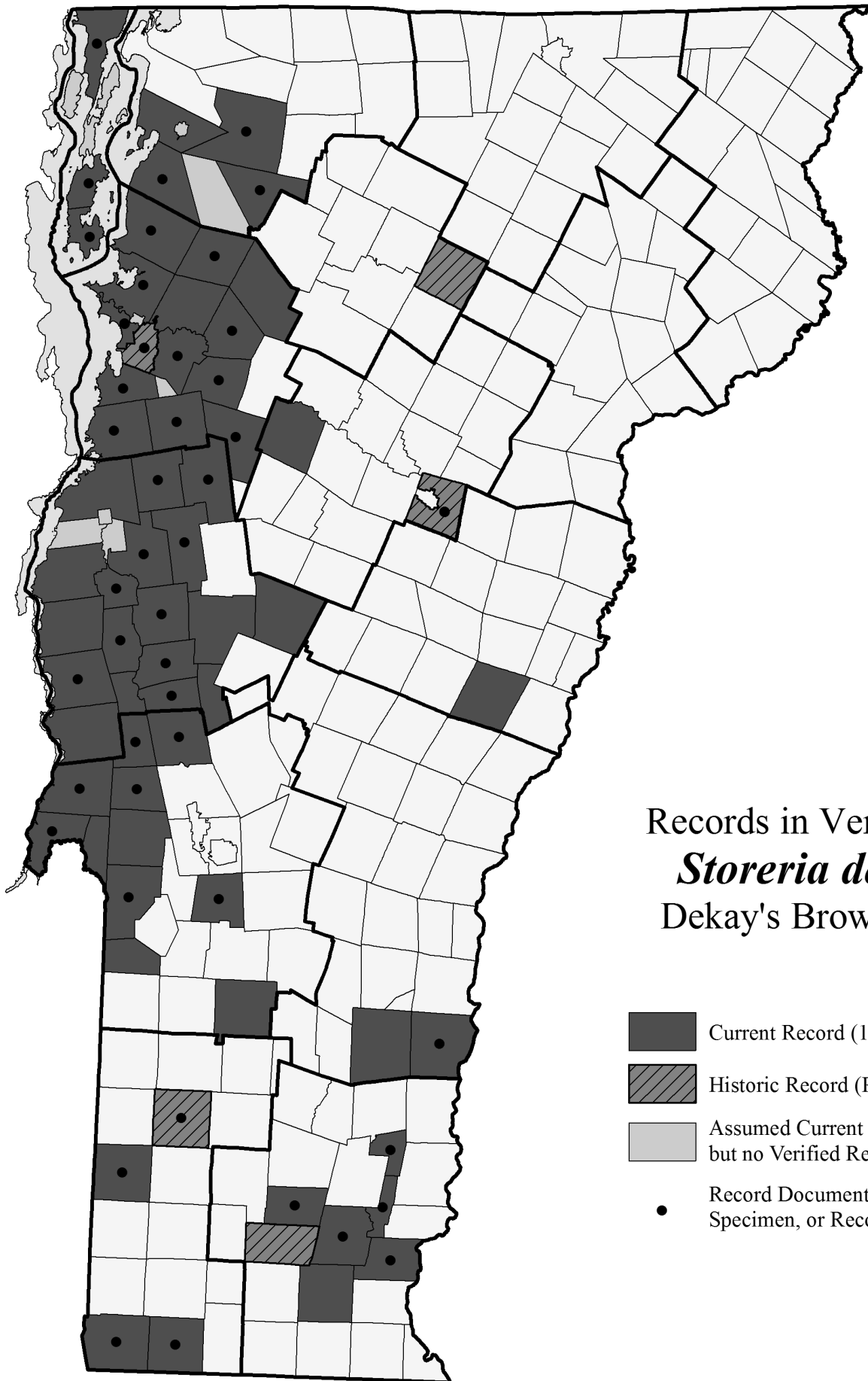
Snakes



Records in Vermont of *Pantherophis alleghaniensis* Eastern Ratsnake

-  Current Record (1986 through 2010)
-  Historic Record (Prior to 1986)
-  Assumed Current Presence but no Verified Records
-  Record Documented with Photo, Specimen, or Recording
-  Single Individual Documented, Possible Released Pet

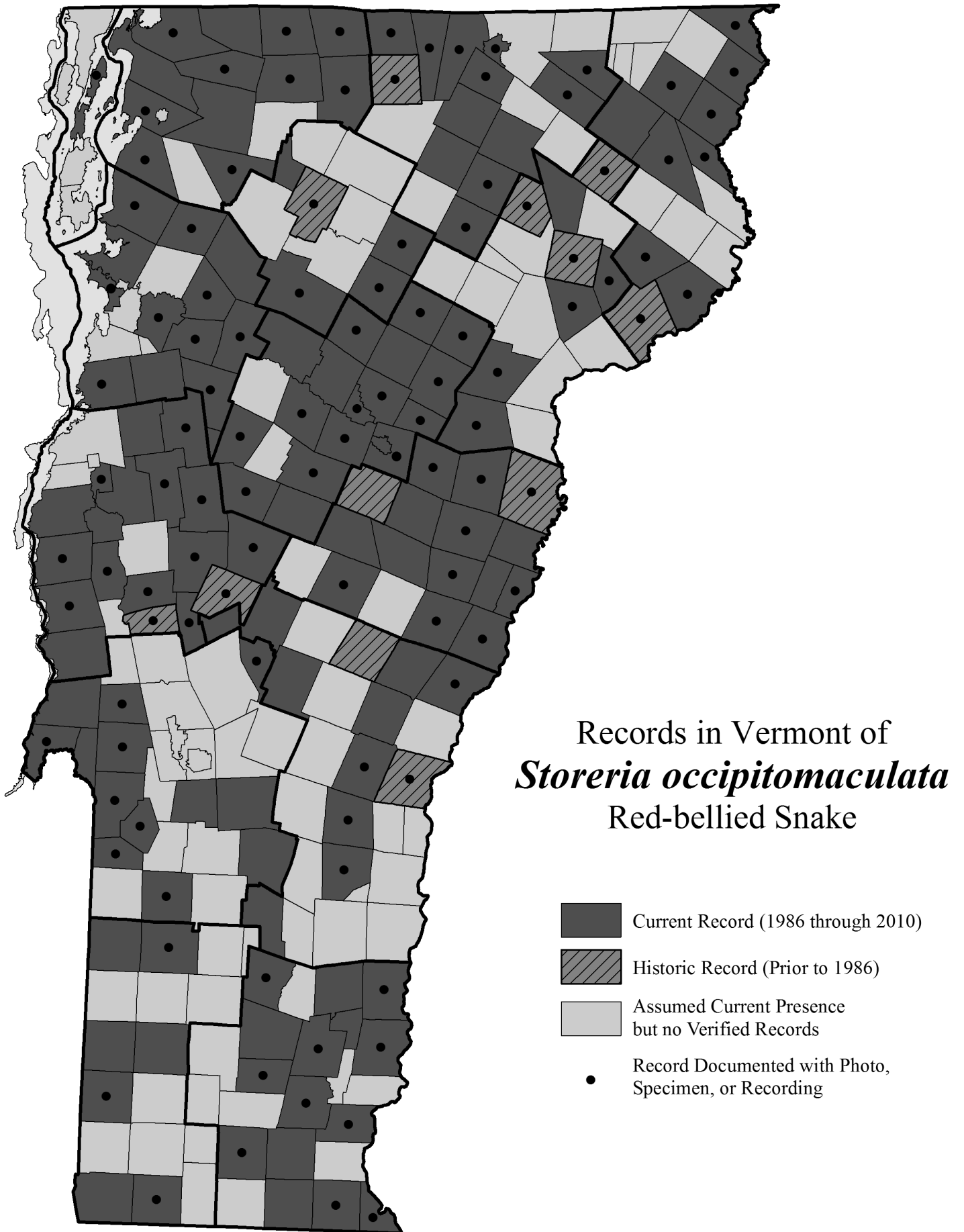
Snakes



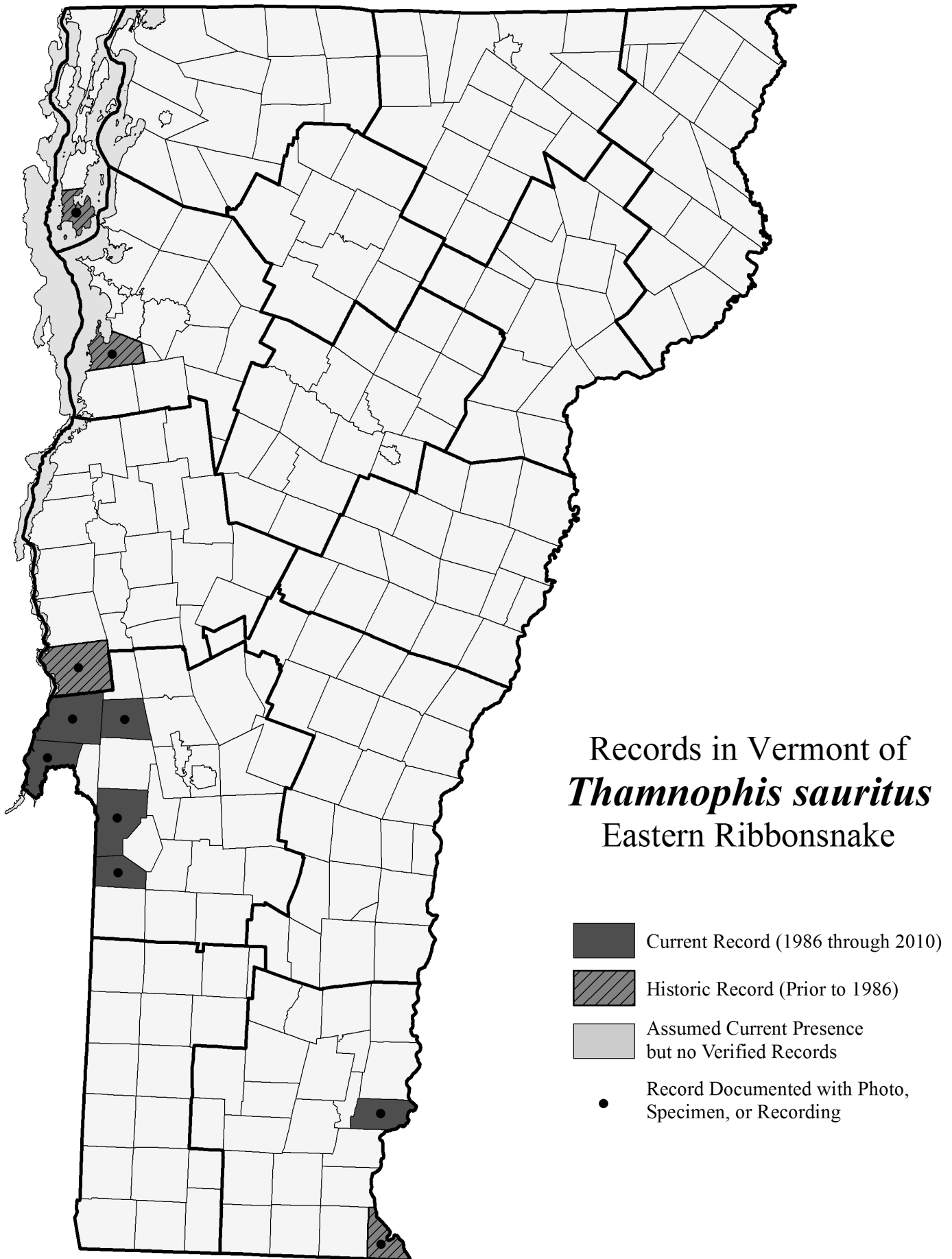
Records in Vermont of *Storeria dekayi* Dekay's Brownsnake

- Current Record (1986 through 2010)
- ▨ Historic Record (Prior to 1986)
- Assumed Current Presence but no Verified Records
- Record Documented with Photo, Specimen, or Recording

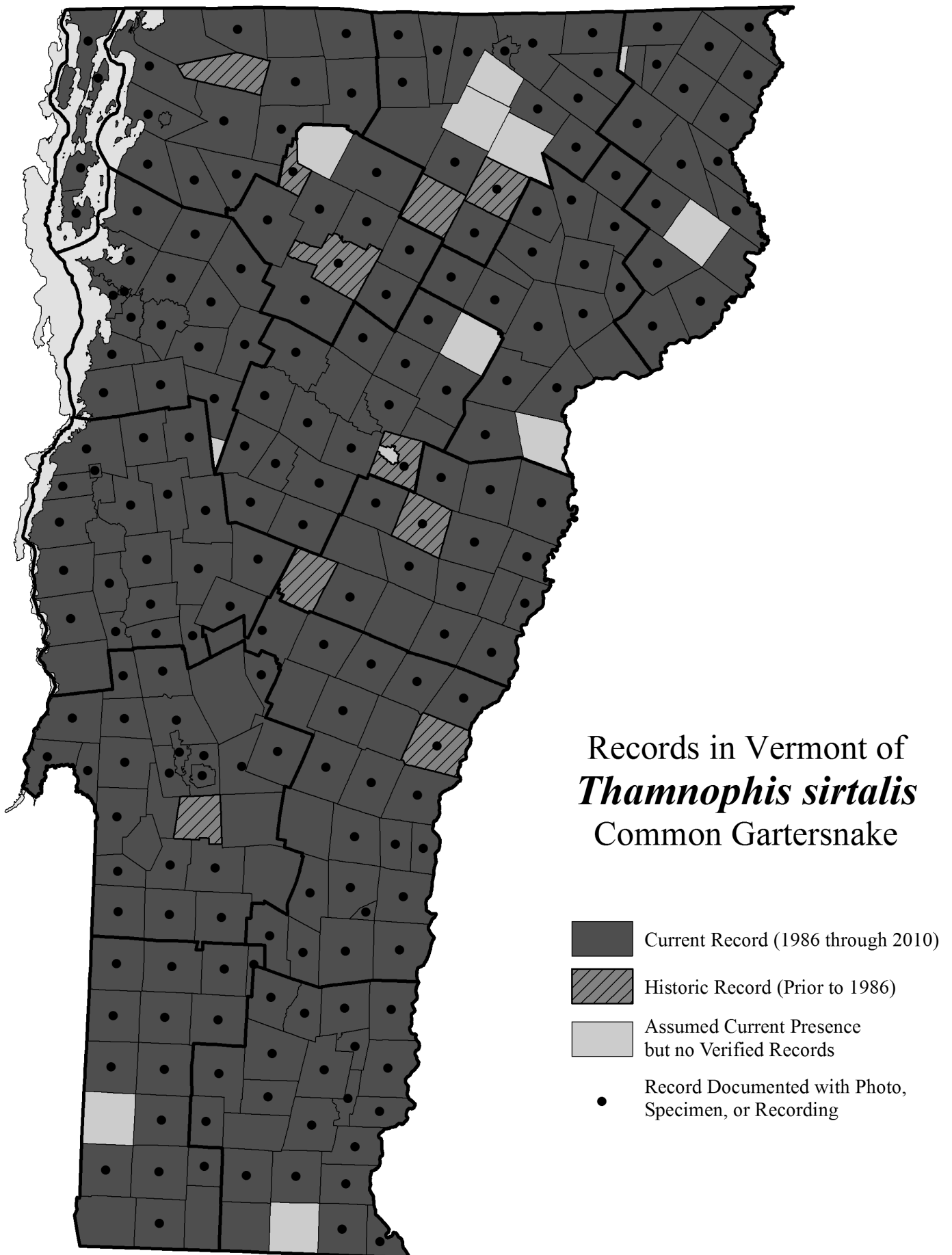
Snakes



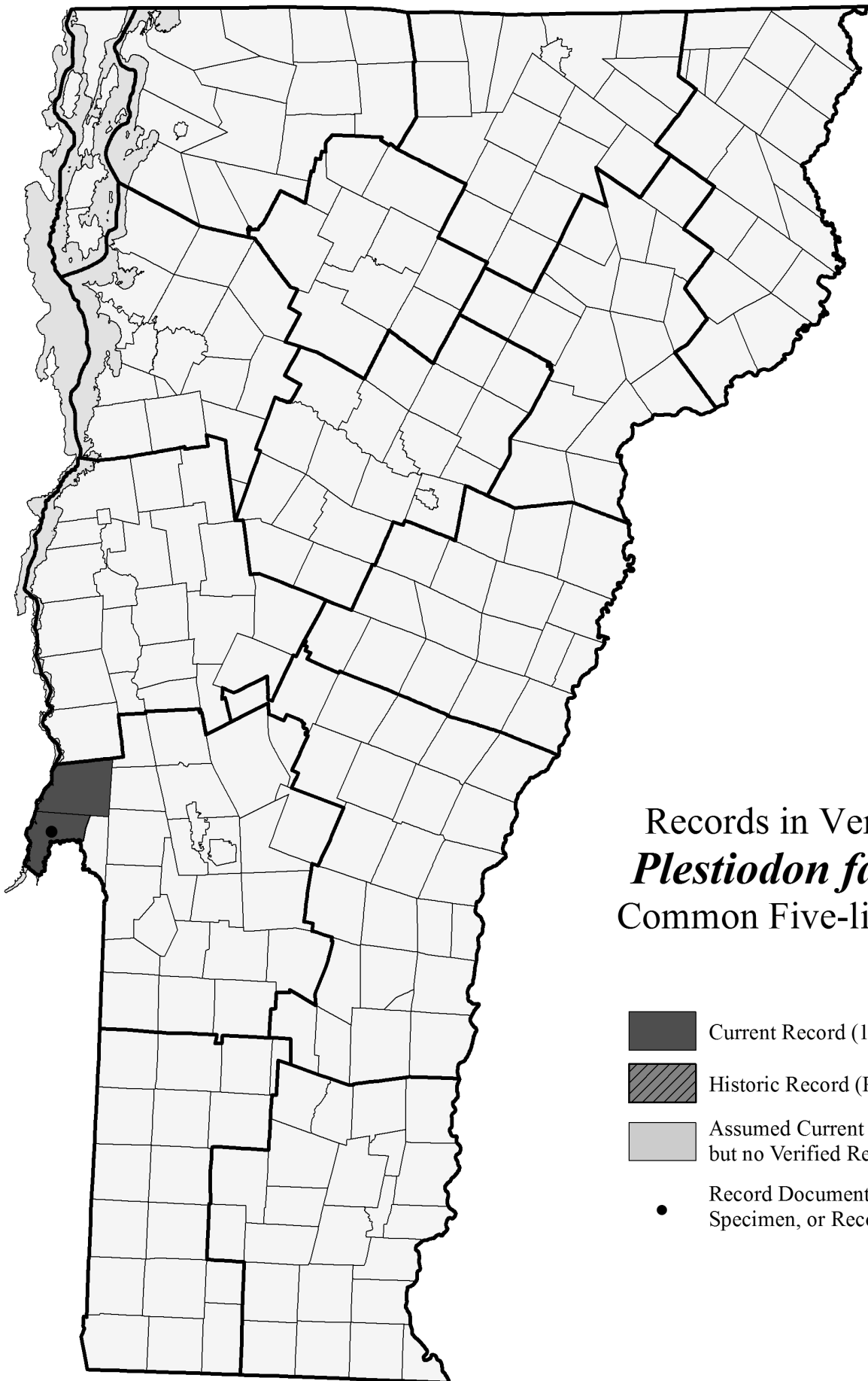
Snakes



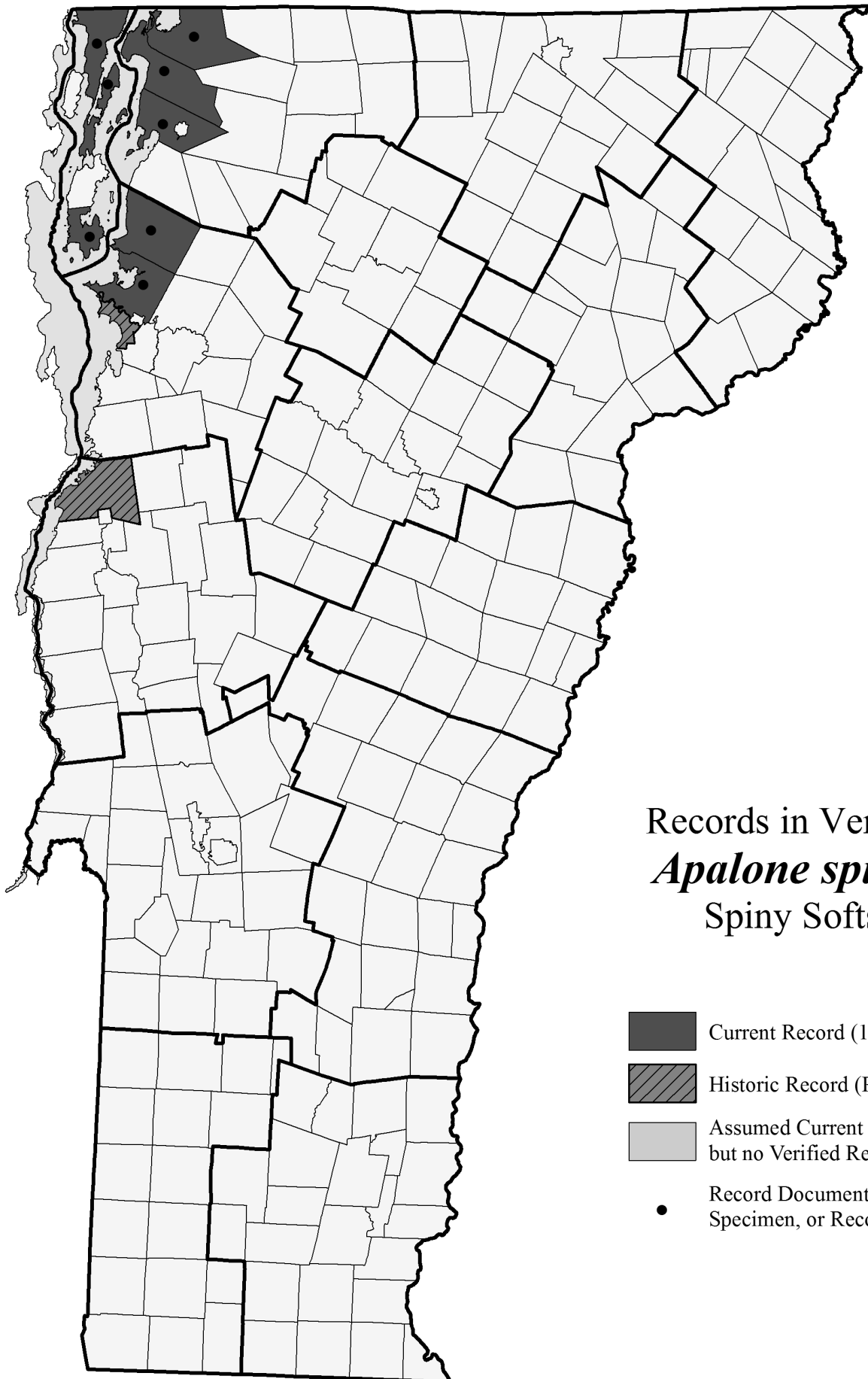
Snakes







Lizards



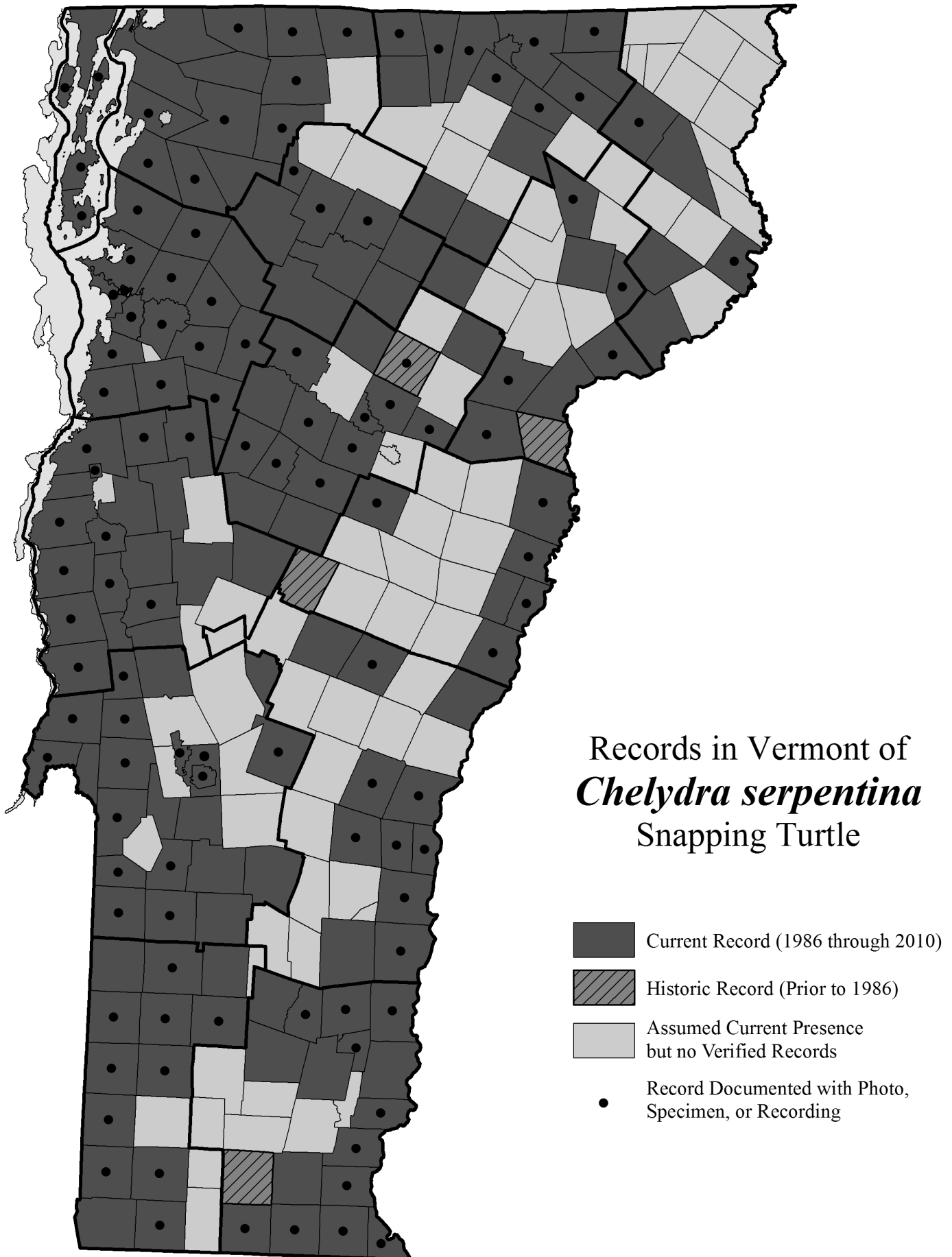
Turtles



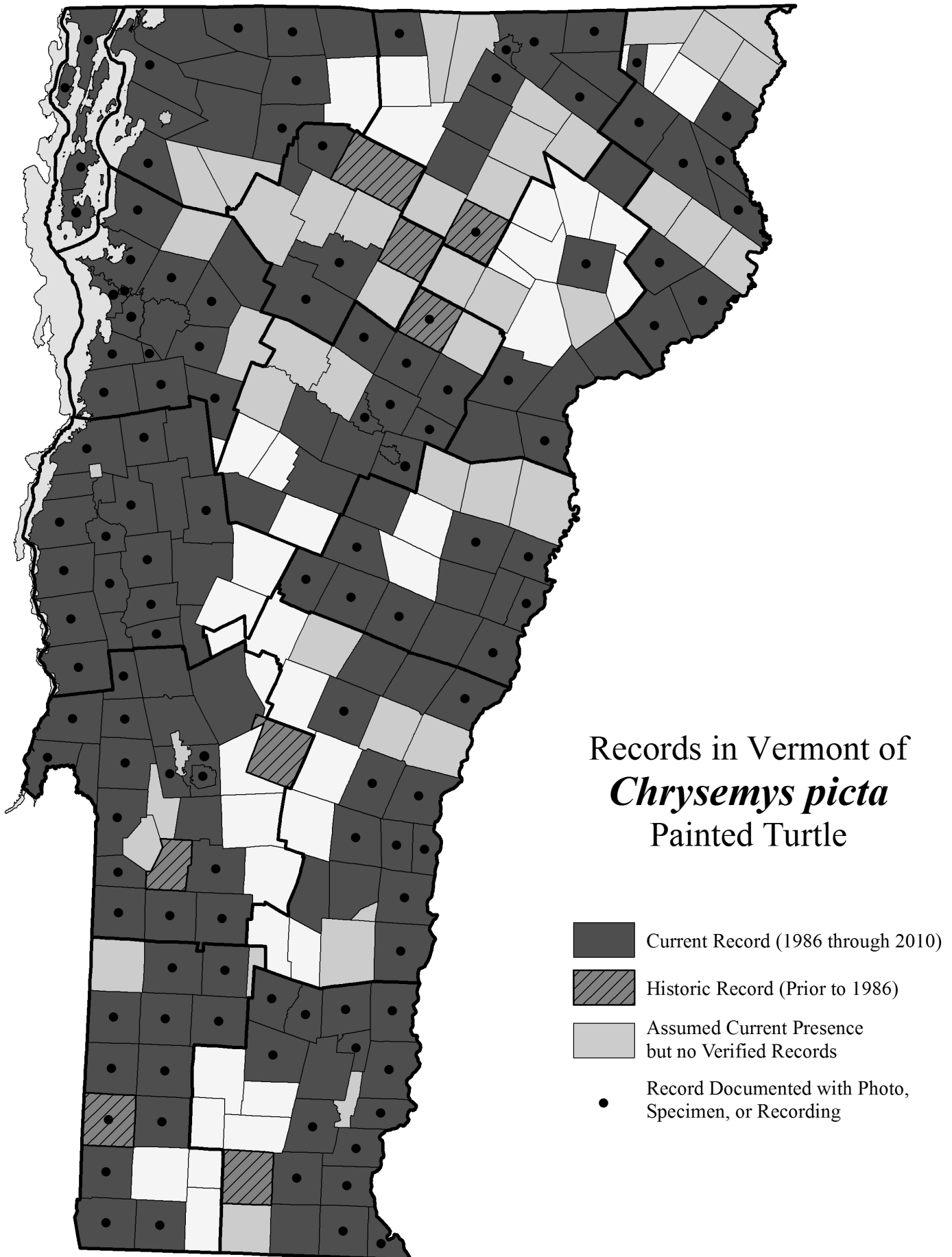
Records in Vermont of *Apalone spinifera* Spiny Softshell

-  Current Record (1986 through 2010)
-  Historic Record (Prior to 1986)
-  Assumed Current Presence
but no Verified Records
-  Record Documented with Photo,
Specimen, or Recording

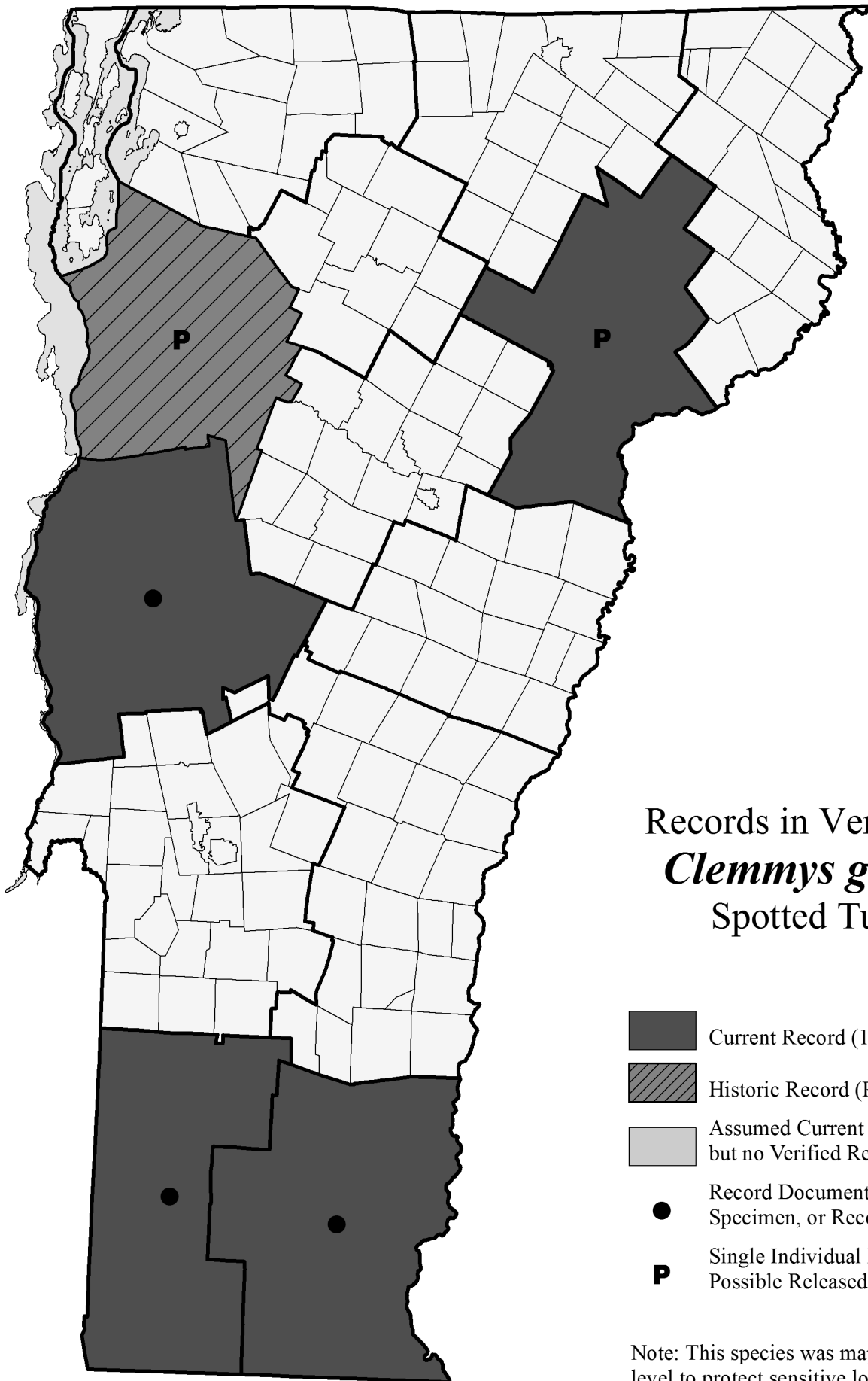
Turtles



Turtles

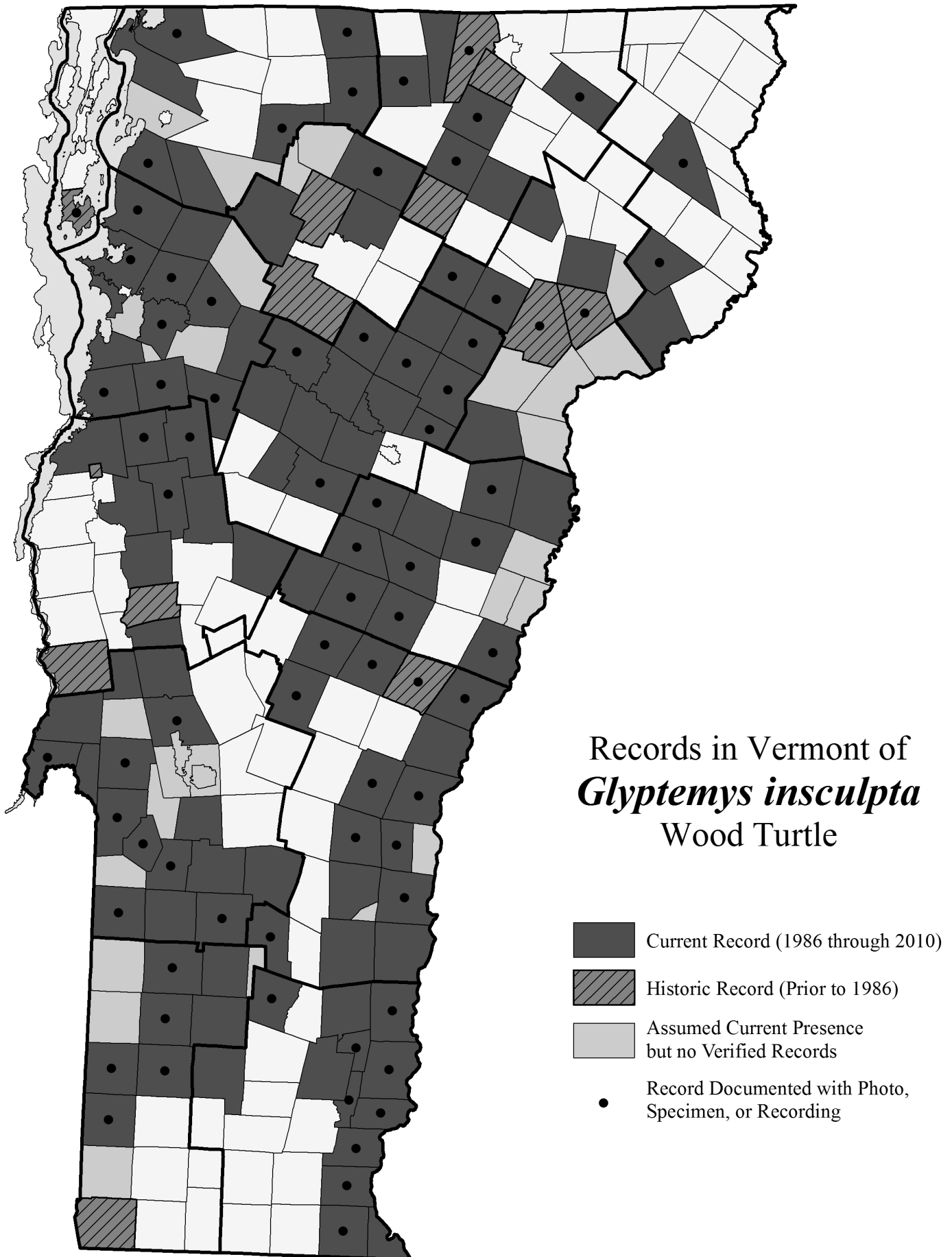


Turtles

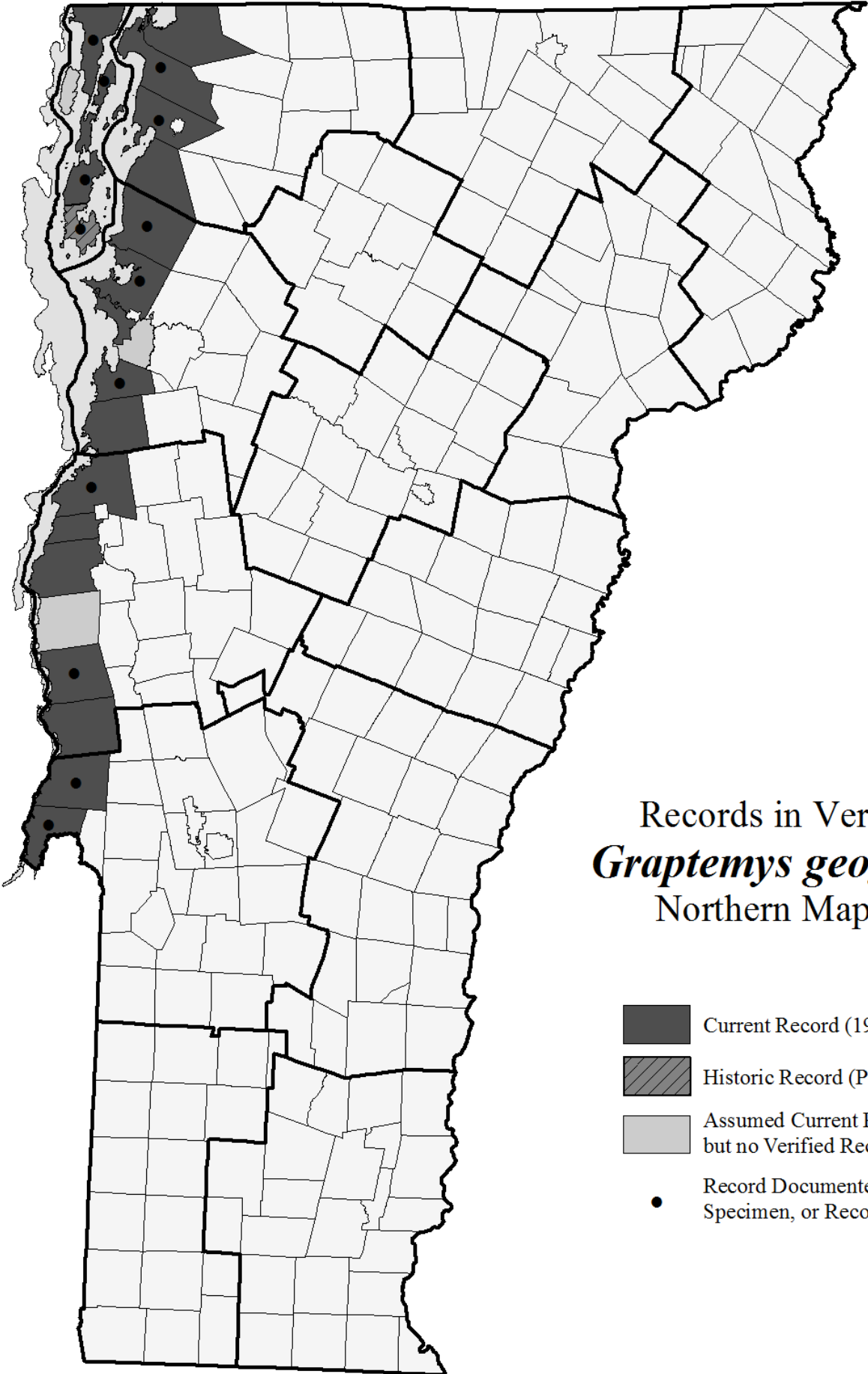


Note: This species was mapped at the county level to protect sensitive locality information.

Turtles



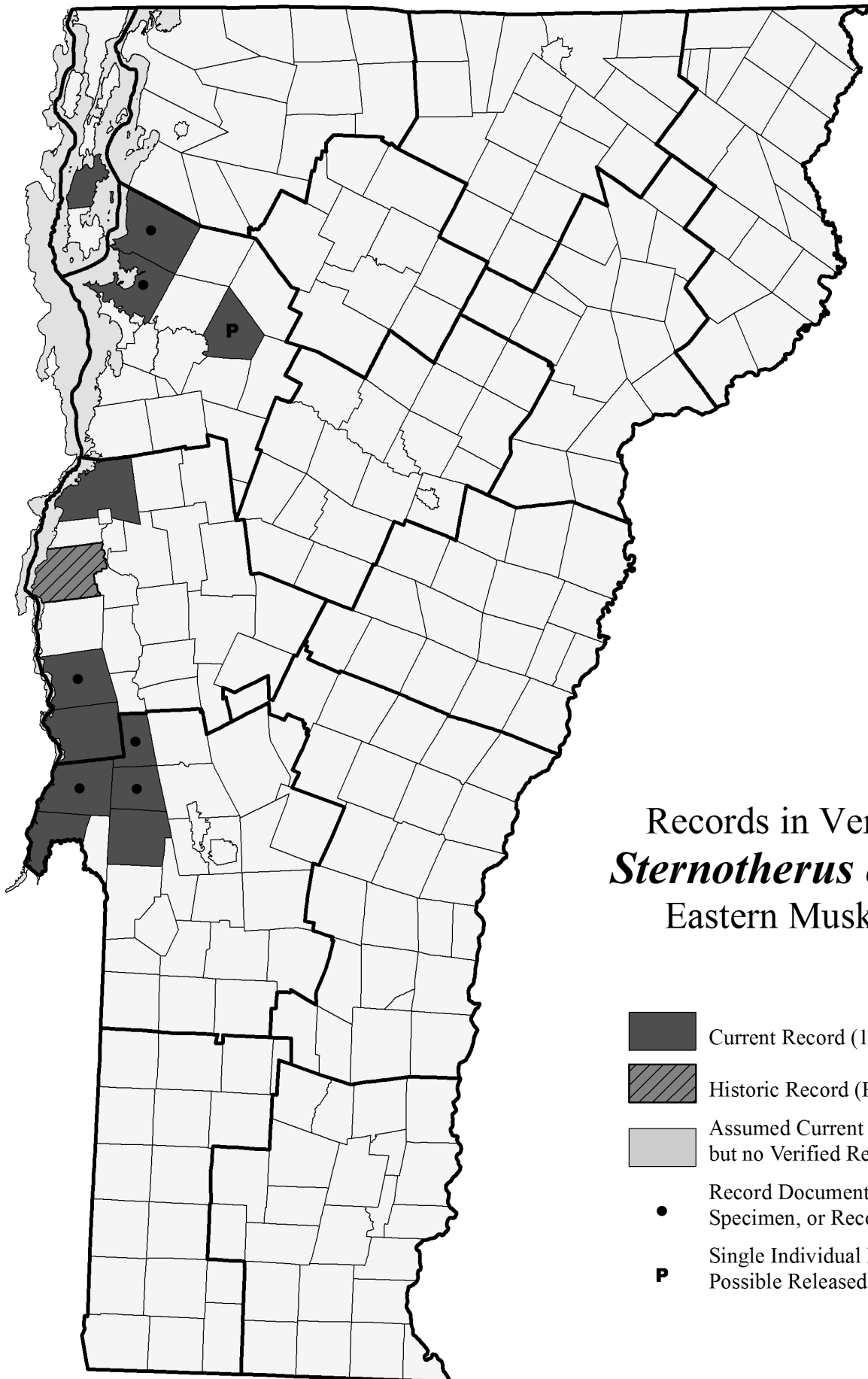
Turtles



Records in Vermont of
Graptemys geographica
Northern Map Turtle

- Current Record (1986 through 2010)
- ▨ Historic Record (Prior to 1986)
- Assumed Current Presence but no Verified Records
- Record Documented with Photo, Specimen, or Recording

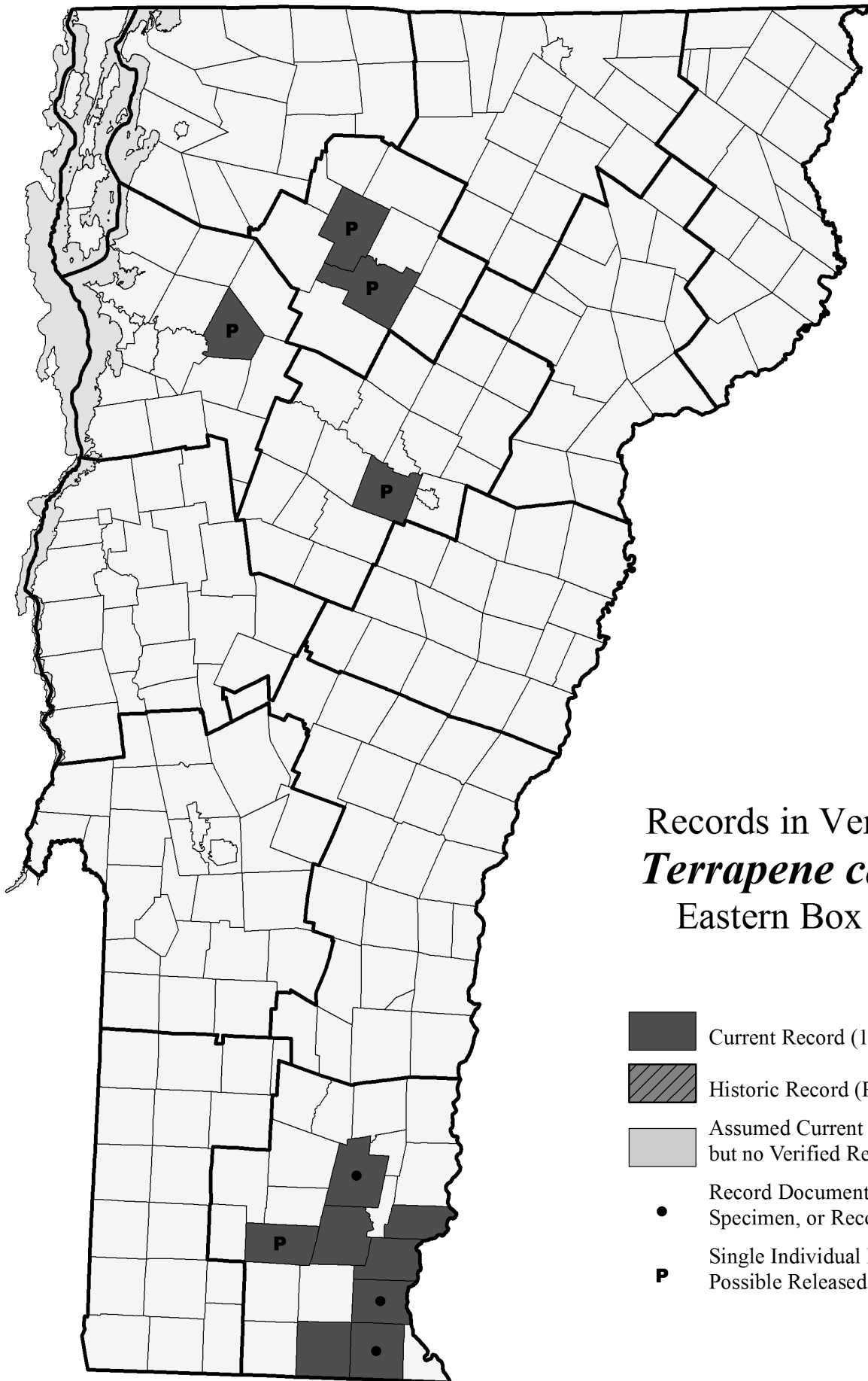
Turtles








Records in Vermont of *Sternotherus odoratus* Eastern Musk Turtle

- Current Record (1986 through 2010)
- ▨ Historic Record (Prior to 1986)
- Assumed Current Presence but no Verified Records
- Record Documented with Photo, Specimen, or Recording
- P Single Individual Documented, Possible Released Pet

Turtles



Records in Vermont of *Terrapene carolina* Eastern Box Turtle

-  Current Record (1986 through 2010)
-  Historic Record (Prior to 1986)
-  Assumed Current Presence but no Verified Records
-  Record Documented with Photo, Specimen, or Recording
-  Single Individual Documented, Possible Released Pet

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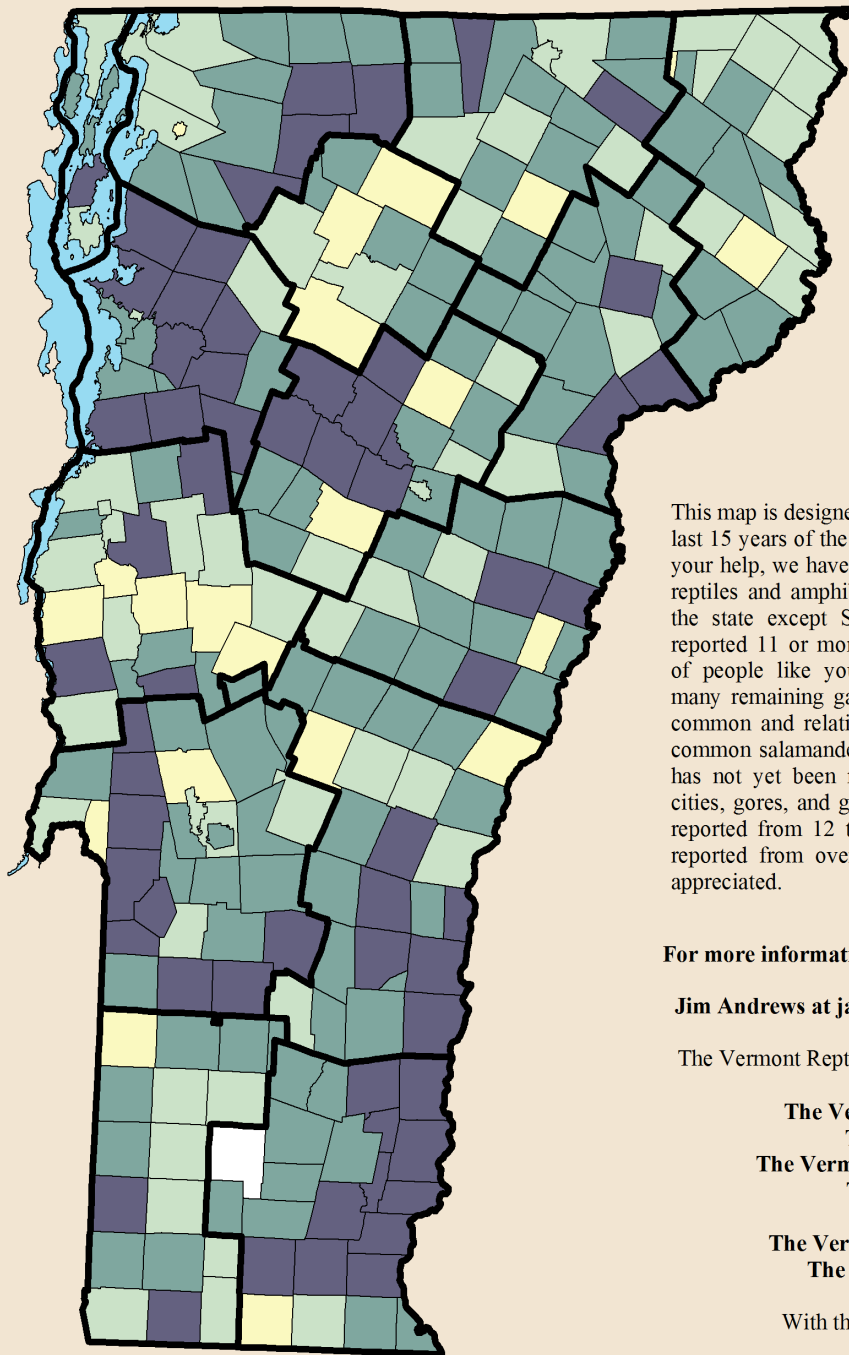
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



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New Species Recorded By Township

Since Publication of
The Preliminary Atlas of Reptiles & Amphibians of Vermont
April, 1995



New Species Reported

	0
	1 - 5
	6 - 10
	11 - 15
	15 +

This map is designed to show the progress we have made over the last 15 years of the Vermont Reptile and Amphibian Atlas. With your help, we have documented previously unreported species of reptiles and amphibians in every town, gore, city, and grant in the state except Stratton. In 173 of those towns you have reported 11 or more previously unreported species. Thousands of people like you have contributed reports. Still there are many remaining gaps in our maps. Some of those gaps are of common and relatively easy to find species. One of our most common salamanders is the Eastern Red-backed Salamander. It has not yet been reported from 15 Vermont towns (including cities, gores, and grants). Common Gartersnakes have not been reported from 12 towns and Snapping Turtle has not yet been reported from over 80 towns. Your help is still needed and appreciated.

For more information visit our website at www.vtherpatlas.org
or contact:

Jim Andrews at jandrews@middlebury.edu or 802-352-4734

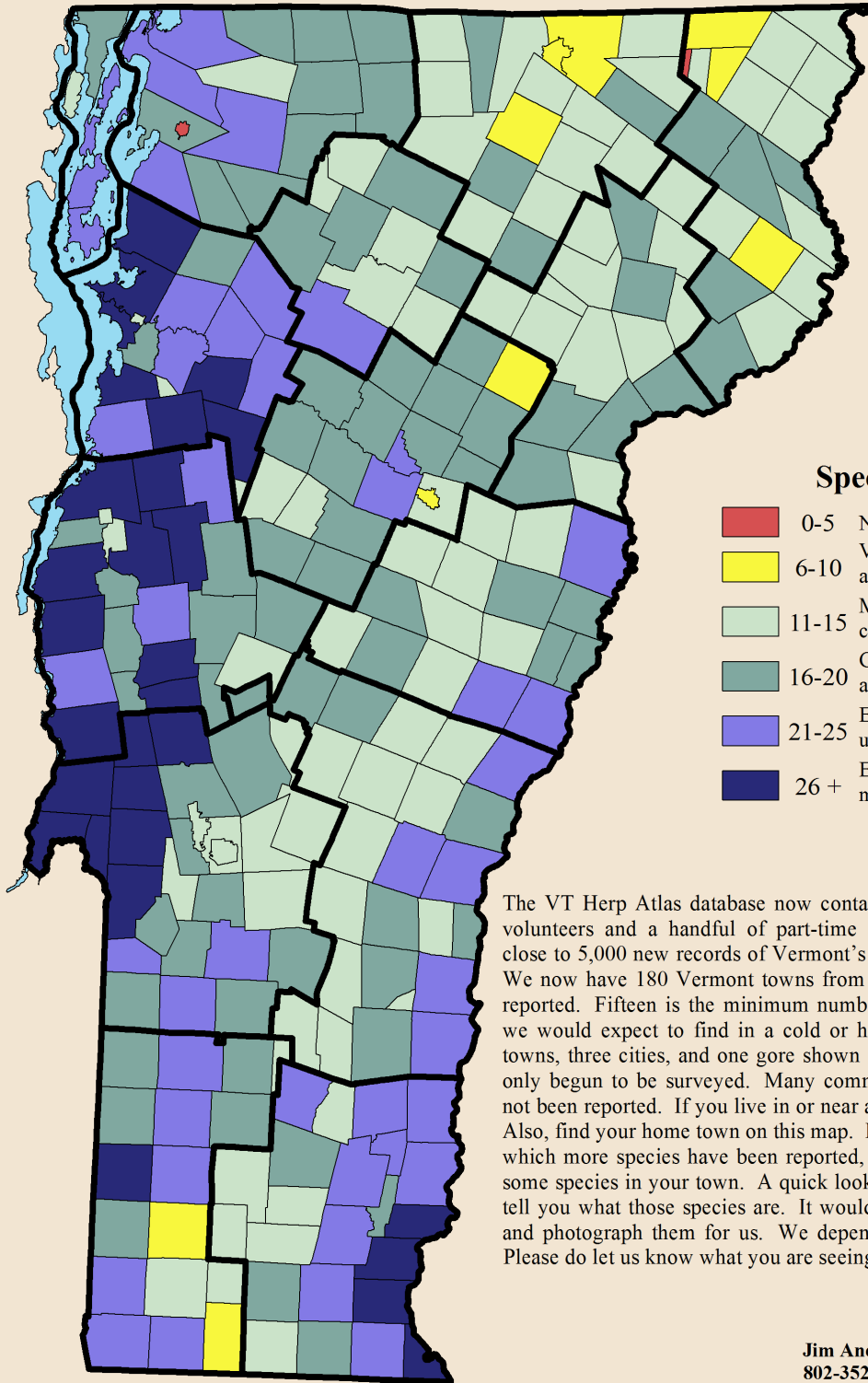
The Vermont Reptile and Amphibian Atlas has been funded by:

The Vermont Monitoring Cooperative
The Lintilhac Foundation
The Vermont Fish and Wildlife Department
The Norcross Foundation
The Sweet Water Trust
The Vermont Institute of Natural Science
The Colby Hill Ecological Project

With the help of Vermont Family Forests

Vermont Reptile and Amphibian Atlas

Species Reports as of January 1, 2011



Species Reported

- 0-5 No significant survey effort
- 6-10 Very limited survey effort with a few common species reported
- 11-15 Modest survey effort with some common species reported
- 16-20 Good survey effort with almost all common species reported
- 21-25 Excellent survey effort and some unusual species reported
- 26 + Excellent survey effort and many unusual species reported

The VT Herp Atlas database now contains over 78,000 records. Over 500 volunteers and a handful of part-time employees and students contribute close to 5,000 new records of Vermont's reptiles and amphibians every year. We now have 180 Vermont towns from which we have 15 or more species reported. Fifteen is the minimum number of reptile and amphibian species we would expect to find in a cold or high-elevation town. Still, the eight towns, three cities, and one gore shown in red and yellow on this map have only begun to be surveyed. Many common species from those towns have not been reported. If you live in or near any of them we could use your help. Also, find your home town on this map. If it borders two or more towns from which more species have been reported, we are probably missing reports of some species in your town. A quick look at the individual species maps will tell you what those species are. It would be very exciting if you could find and photograph them for us. We depend on reports from folks like you. Please do let us know what you are seeing.

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