

Marin/Sonoma Mosquito and Vector Control

Ixodes pacificus / *Borrelia miyamotoi*
Surveillance 2016 - 2023



Parks Sampled 2016 - 2023

Marin County

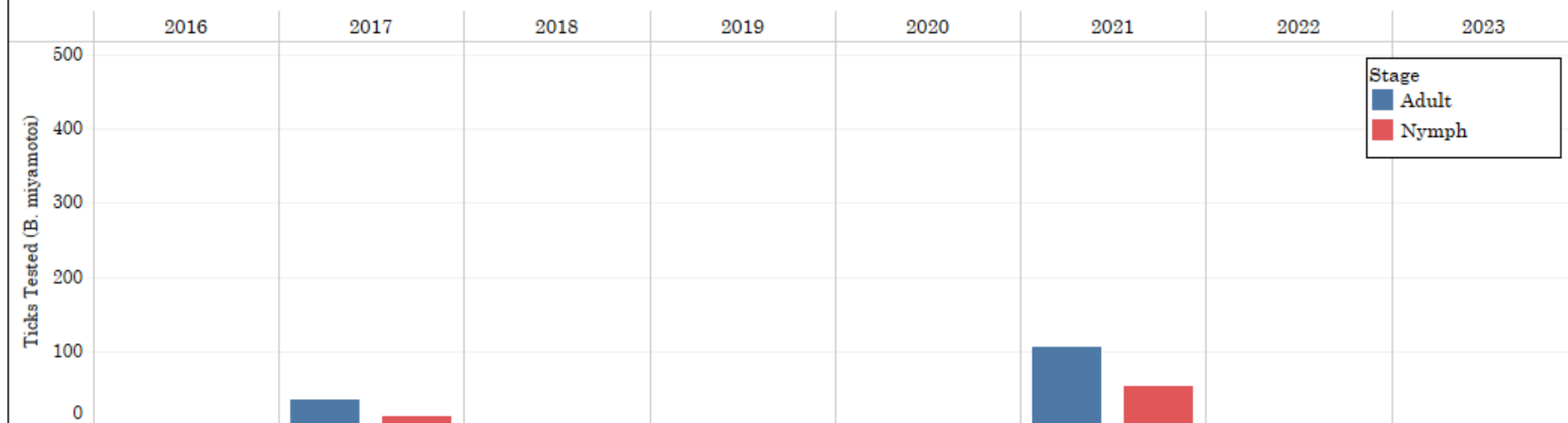
China Camp State Park
Golden Gate National Recreation Area
Horse Hill Preserve
Indian Tree Open Space Preserve
Indian Valley Open Space Preserve
Lomo Alto Open Space Preserve
Marin Municipal Water District
Mount Burdell Open Space Preserve
Mount Tamalpais State Park
Old St. Hilary's Open Space Preserve
Olompali State Park
Roy's Redwoods Open Space Preserve
Samuel P. Taylor State Park
Tomales Bay State Park
White Hill Open Space Preserve

Sonoma County

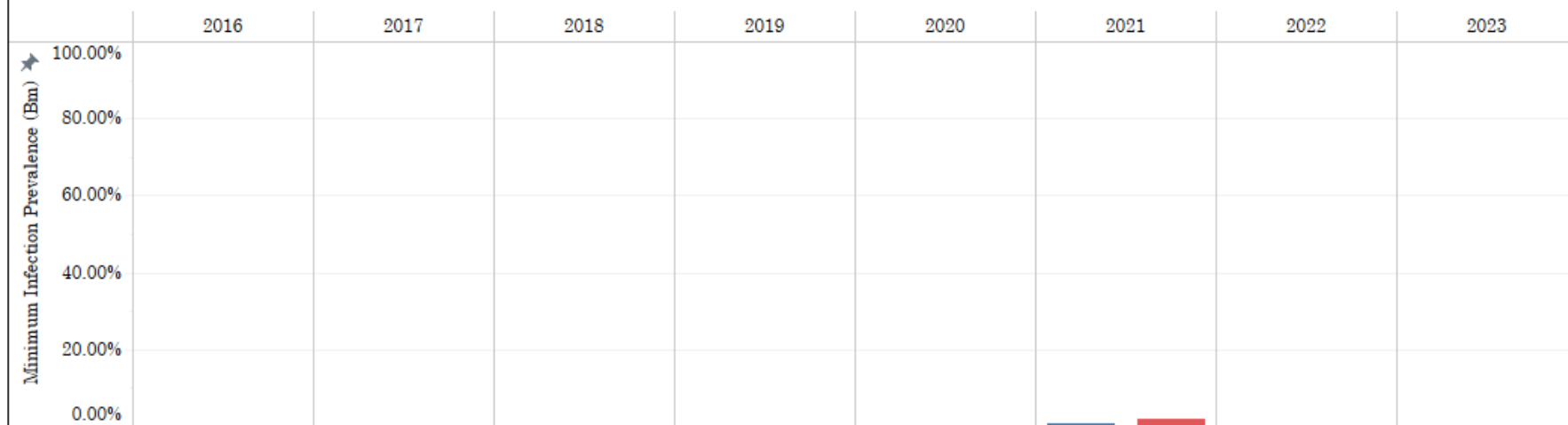
Armstrong Redwoods State Natural Reserve
Austin Creek State Recreation Area
Crane Creek Regional Park
Doran Beach Regional Park
Foothill Regional Park
Helen Putnam Regional Park
Hood Mountain Regional Park
Howarth Park
Jack London State Park
North Sonoma Mountain Regional Park
Shiloh Ranch Regional Park
Spring Lake Regional Park
Stillwater Cove Regional Park
Taylor Mountain Regional Park



Camino Alto Open Space Preserve - *Ixodes pacificus* Collections 2016 - 2023



Camino Alto Open Space Preserve - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



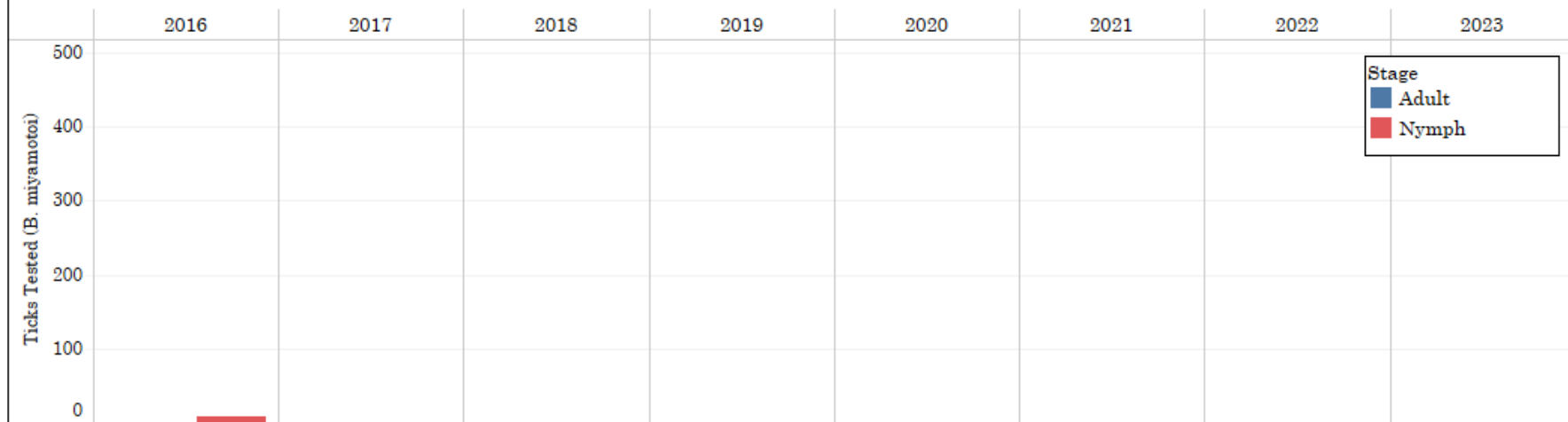
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Camino Alto Open Space Preserve	Adult	140	1	0.71%
	Nymph	65	1	1.54%

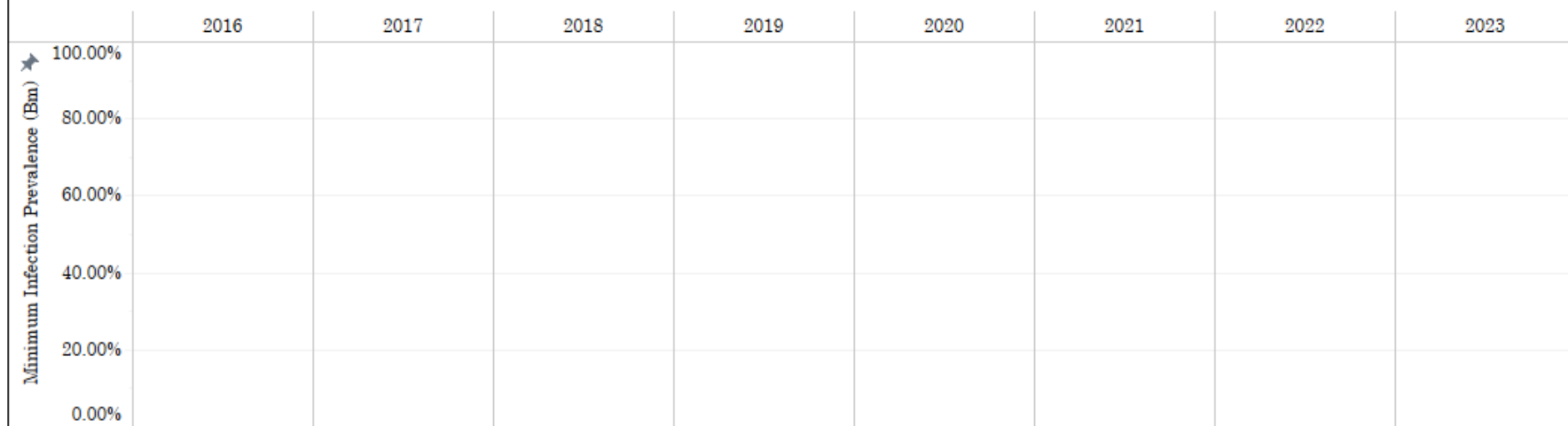
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



China Camp State Park - *Ixodes pacificus* Collections 2016 - 2023



China Camp State Park - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



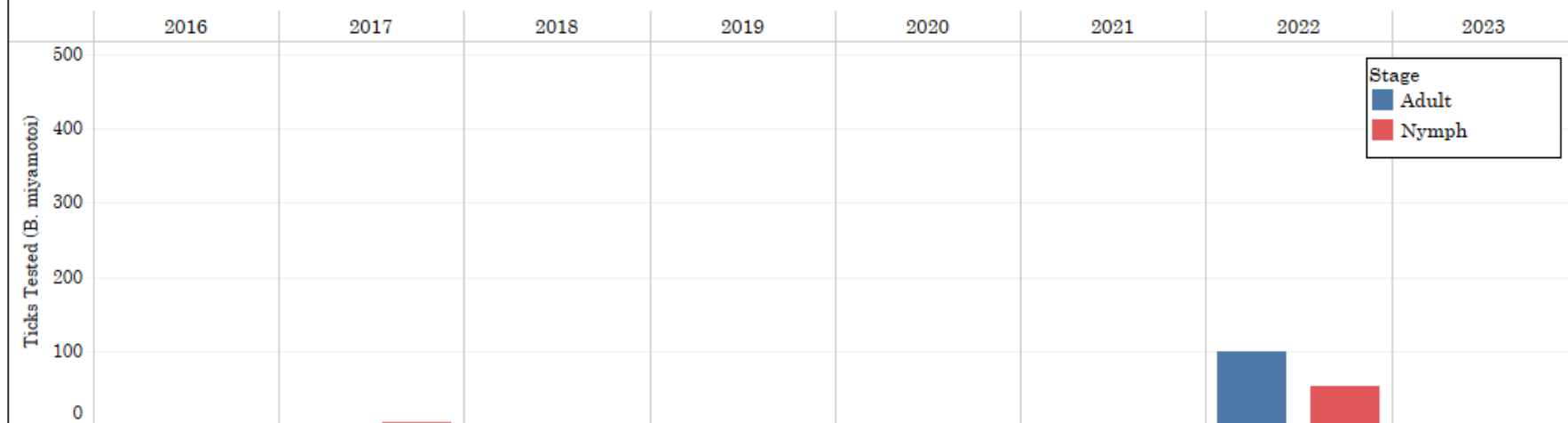
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
China Camp State Park	Adult	1	0	0.00%
	Nymph	9	0	0.00%

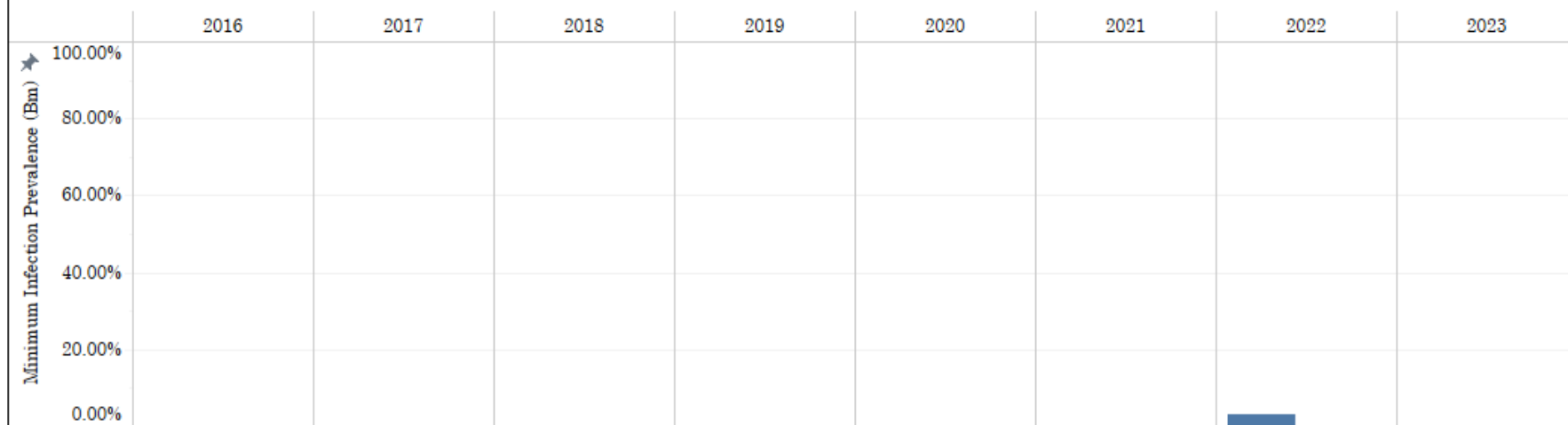
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Golden Gate National Recreation Area - *Ixodes pacificus* Collections 2016 - 2023



Golden Gate National Recreation Area - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



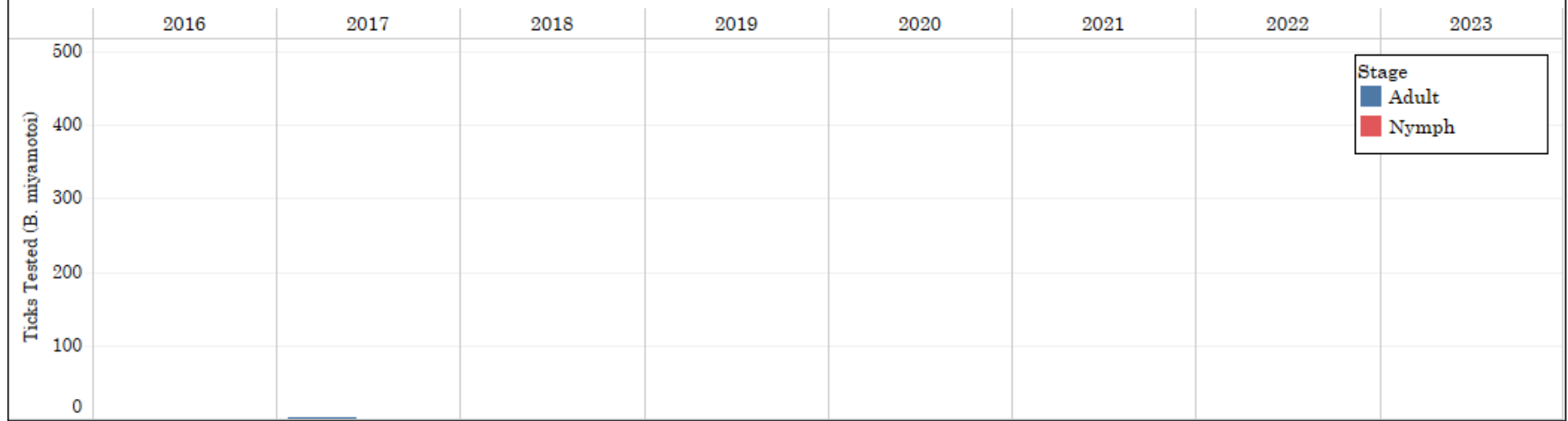
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Golden Gate National Recreation Area	Adult	102	3	2.94%
	Nymph	57	0	0.00%

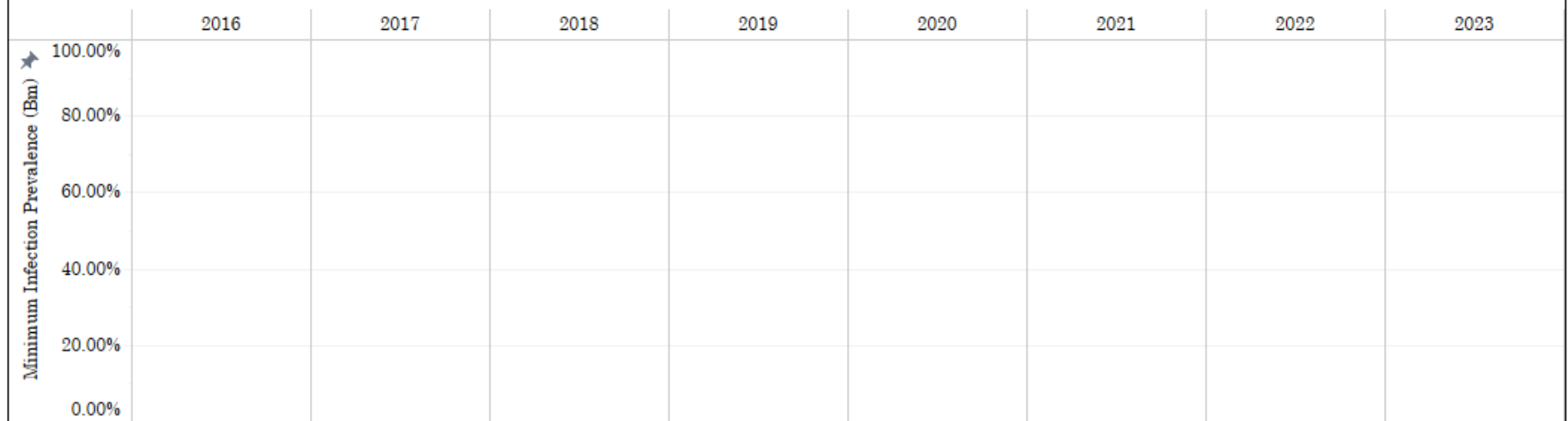
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Horse Hill Preserve - *Ixodes pacificus* Collections 2016 - 2023



Horse Hill Preserve - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



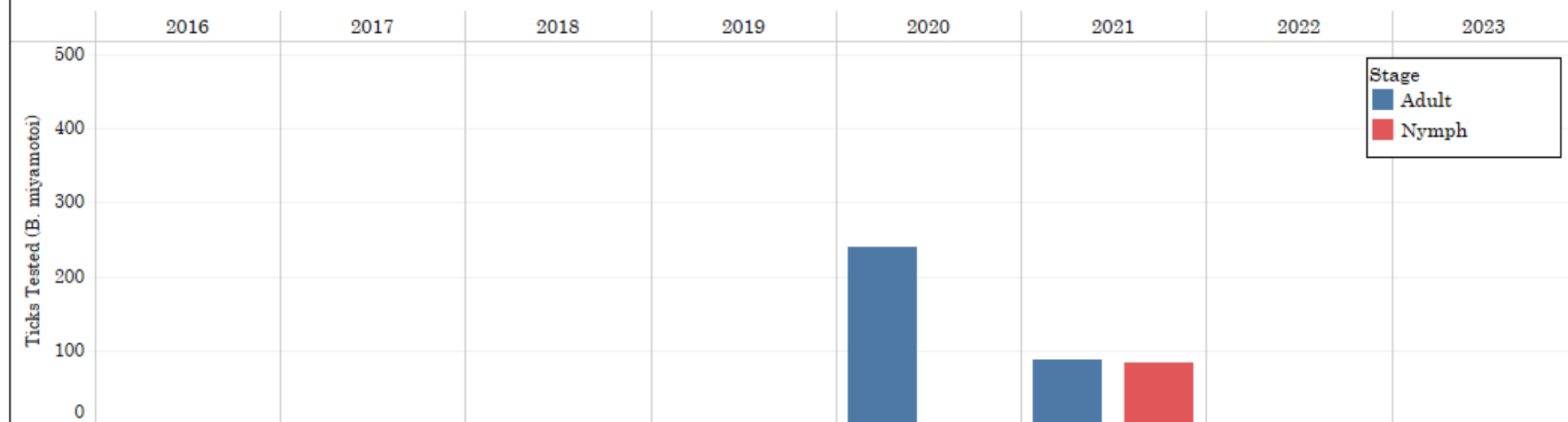
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Horse Hill Preserve	Adult	2	0	0.00%

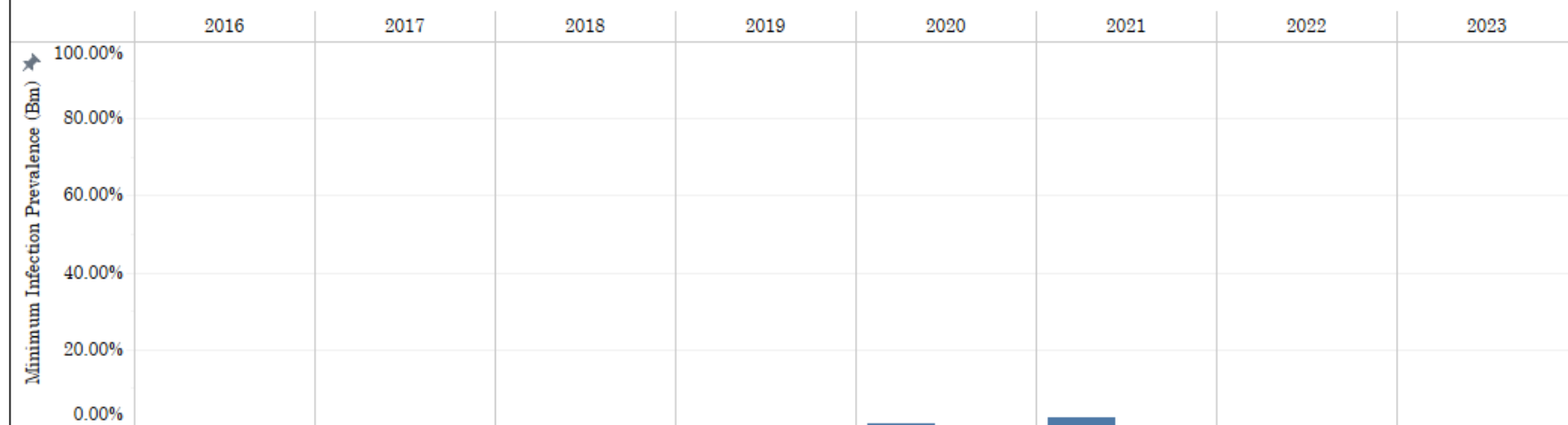
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Indian Tree Open Space Preserve - *Ixodes pacificus* Collections 2016 - 2023



Indian Tree Open Space Preserve - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



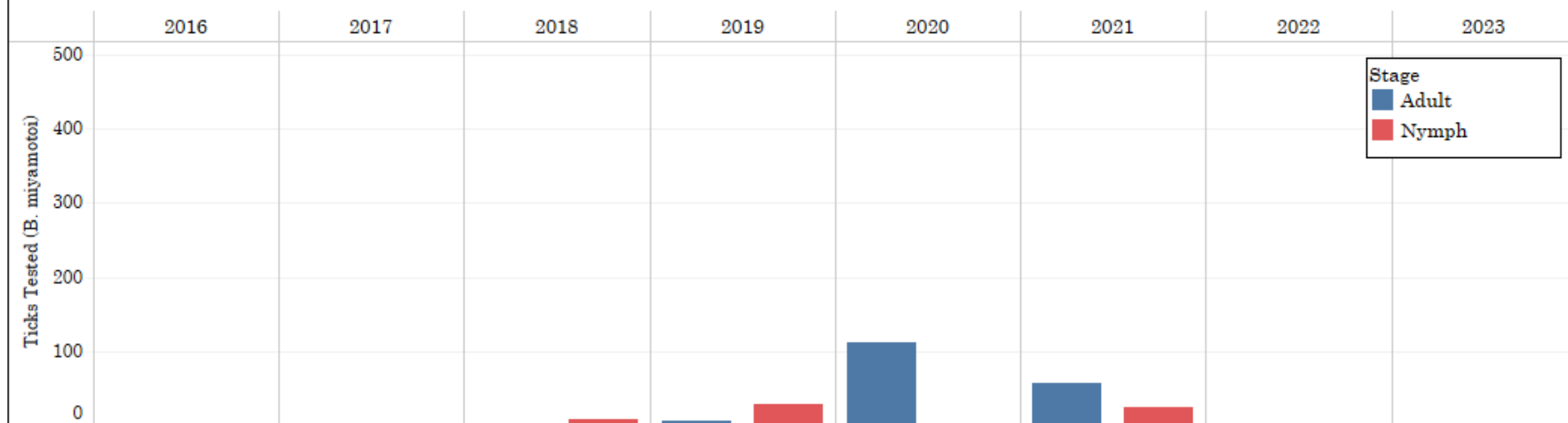
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Indian Tree Open Space Preserve	Adult	327	4	1.22%
	Nymph	86	0	0.00%

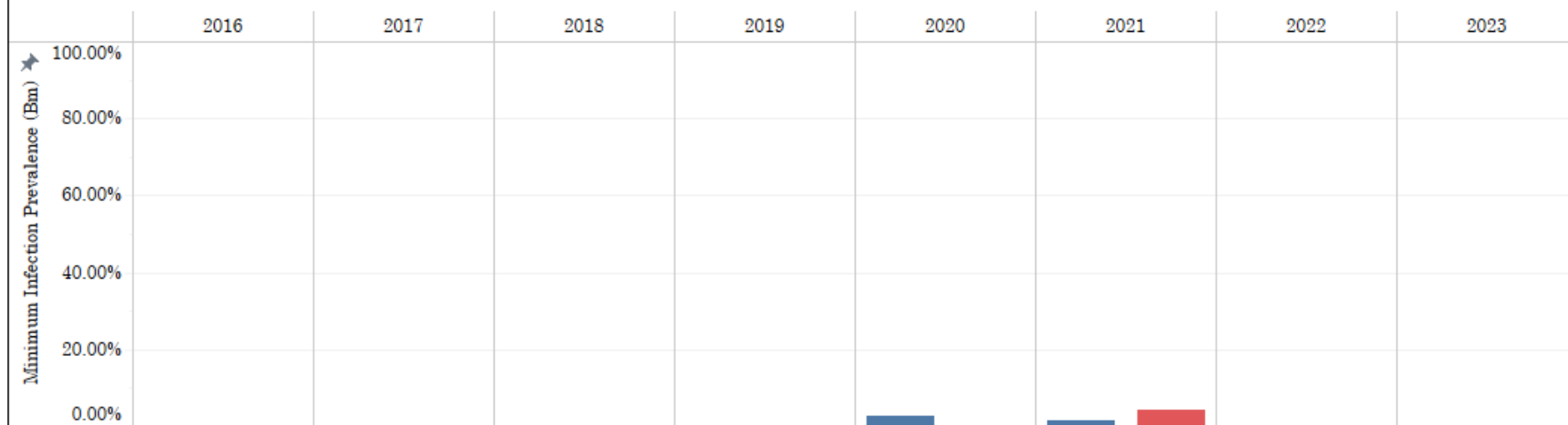
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Indian Valley Open Space Preserve - *Ixodes pacificus* Collections 2016 - 2023



Indian Valley Open Space Preserve - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



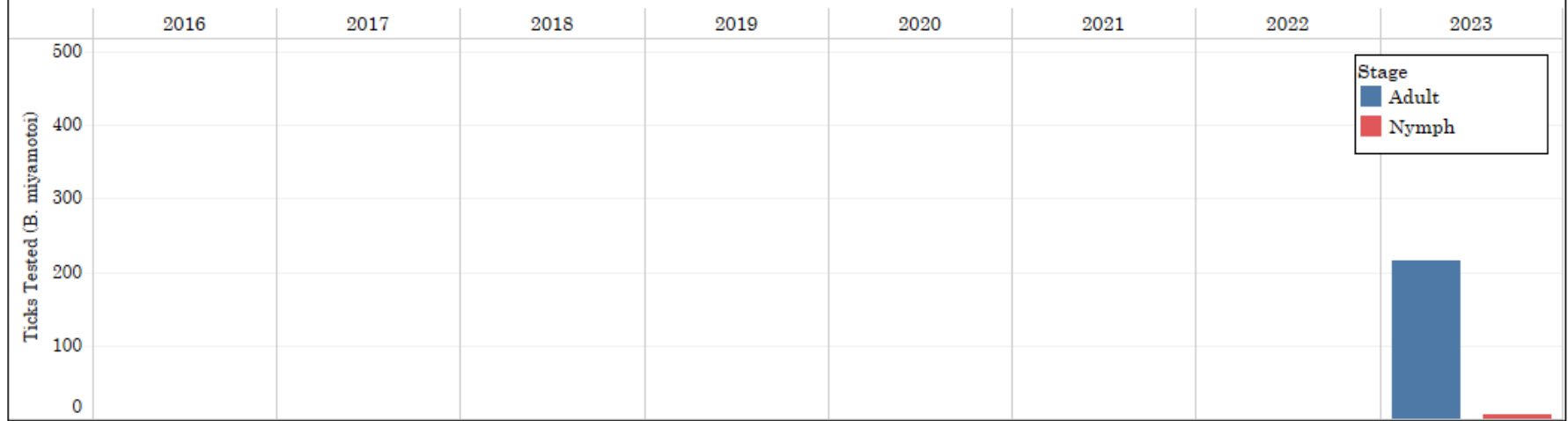
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Indian Valley Open Space Preserve	Adult	178	4	2.25%
	Nymph	63	1	1.59%

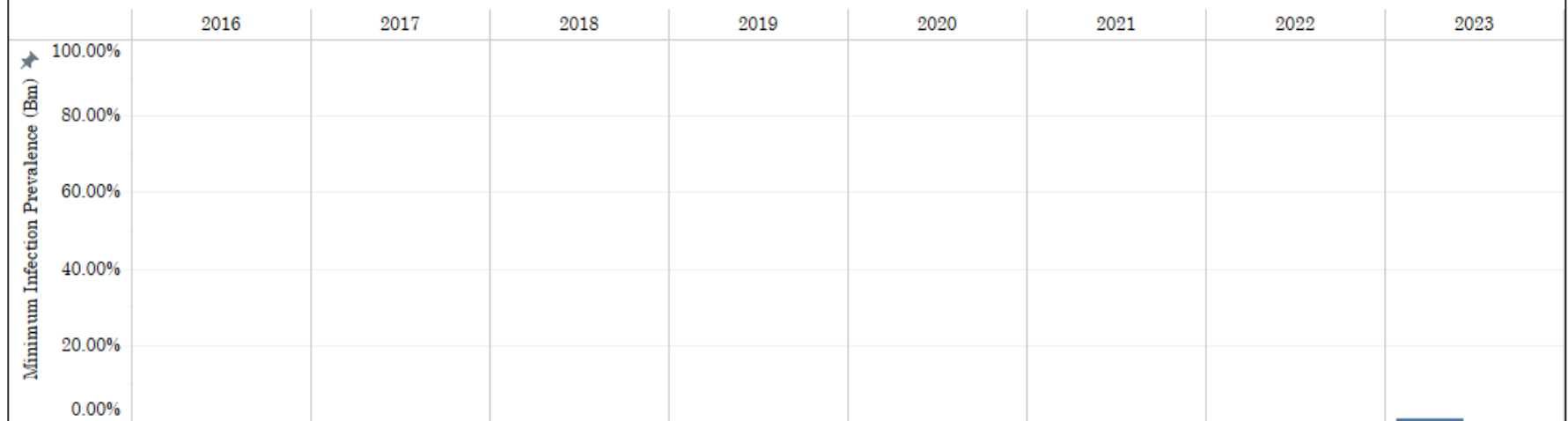
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Lomo Alto Open Space Preserve - *Ixodes pacificus* Collections 2016 - 2023



Lomo Alto Open Space Preserve - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



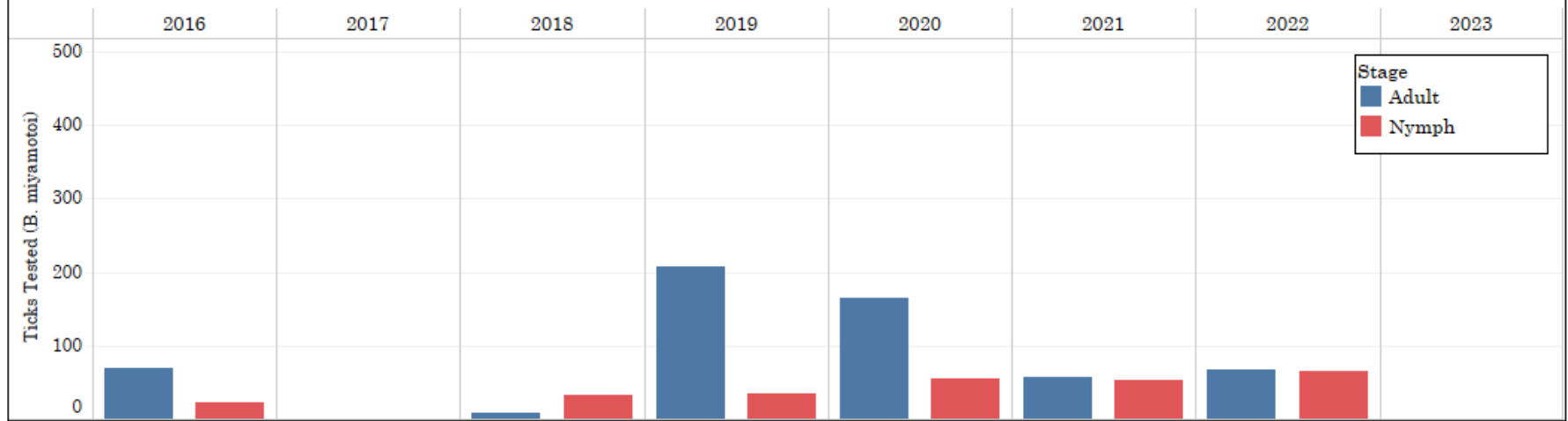
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (B. miyamotoi)	B. miyamotoi (+) pools	Minimum Infection Prevalence (Bm)
Lomo Alto Open Space Preserve	Adult	215	2	0.93%
	Nymph	7	0	0.00%

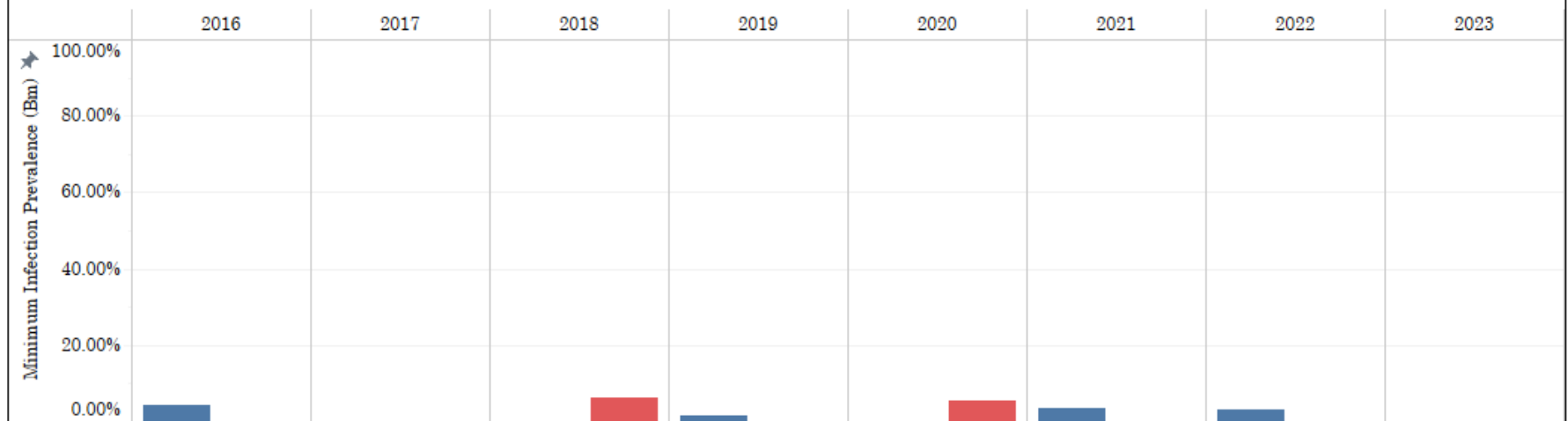
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Marin Municipal Water District - *Ixodes pacificus* Collections 2016 - 2023



Marin Municipal Water District - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



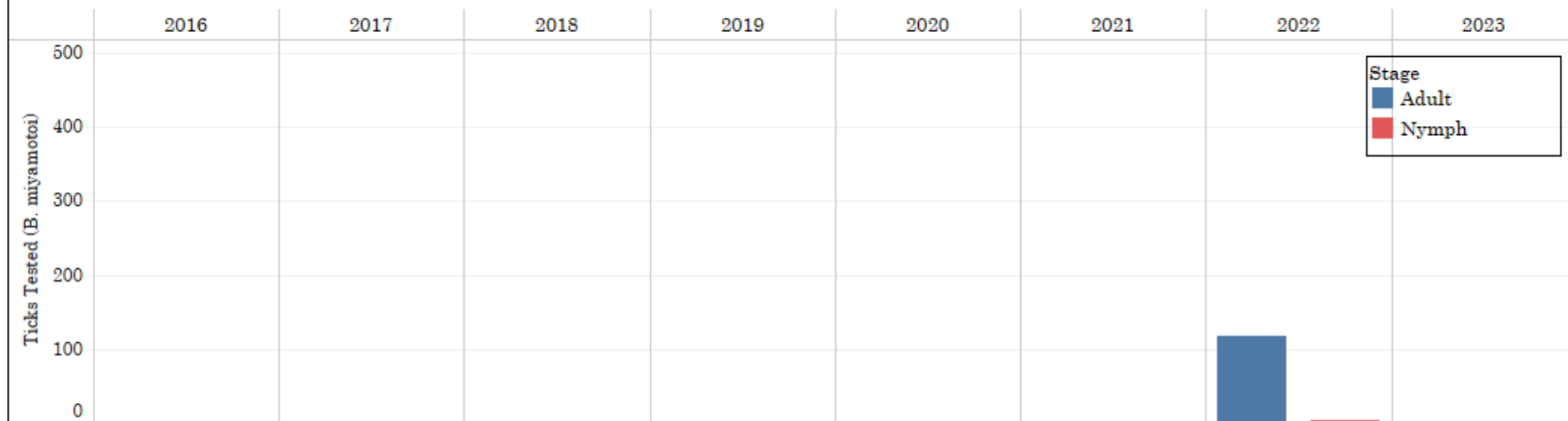
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Marin Municipal Water District	Adult	575	10	1.74%
	Nymph	261	5	1.92%

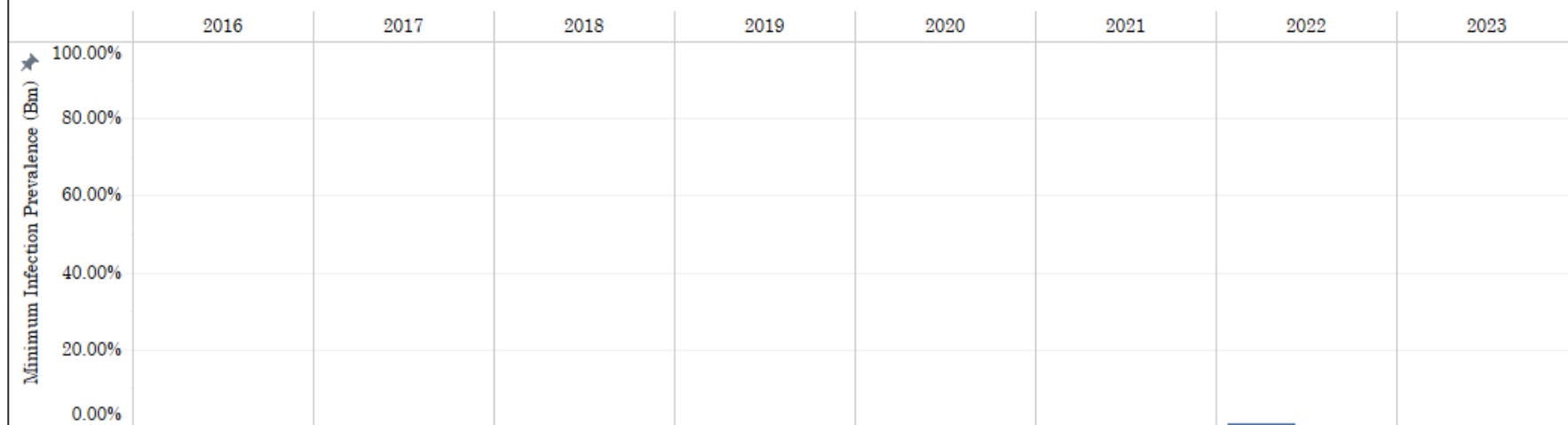
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Mount Burdell Open Space Preserve - *Ixodes pacificus* Collections 2016 - 2023



Mount Burdell Open Space Preserve - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



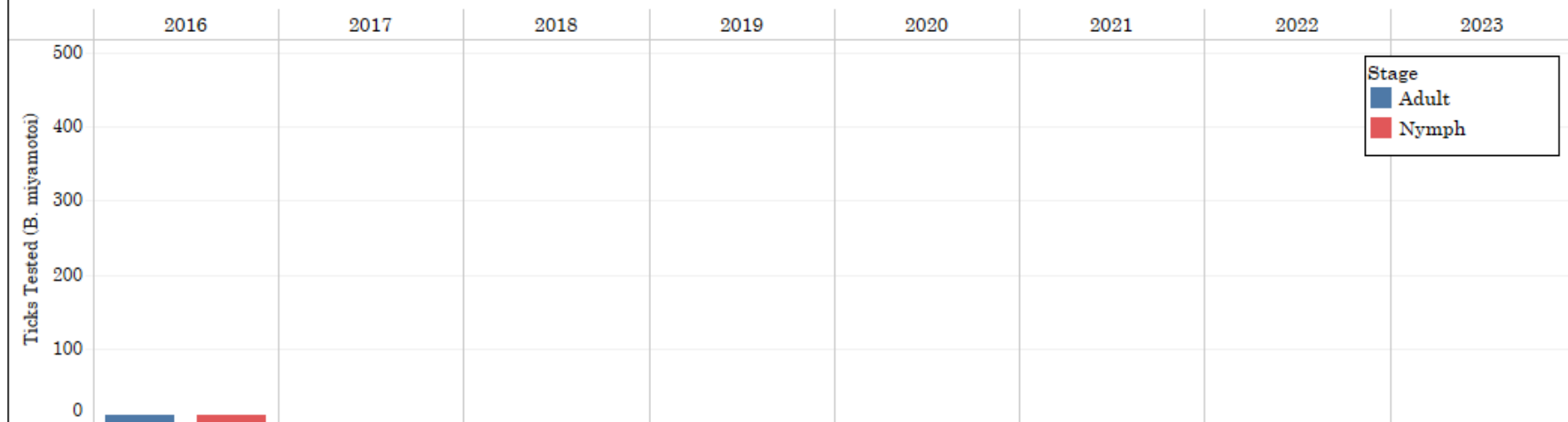
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Mount Burdell Open Space Preserve	Adult	117	1	0.85%
	Nymph	5	0	0.00%

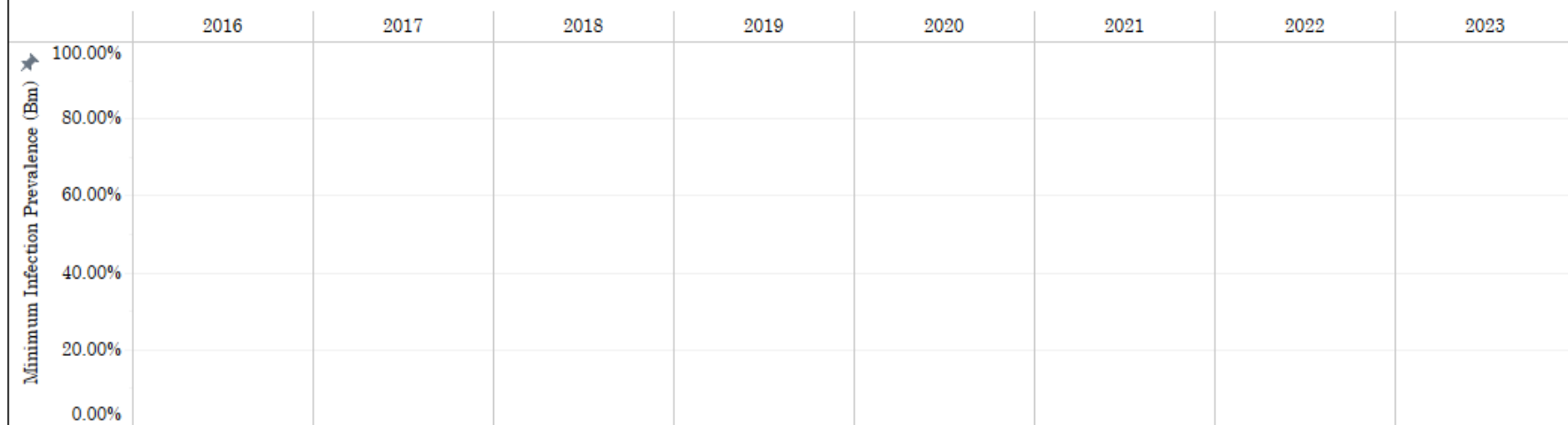
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Mount Tamalpais State Park - *Ixodes pacificus* Collections 2016 - 2023



Mount Tamalpais State Park - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



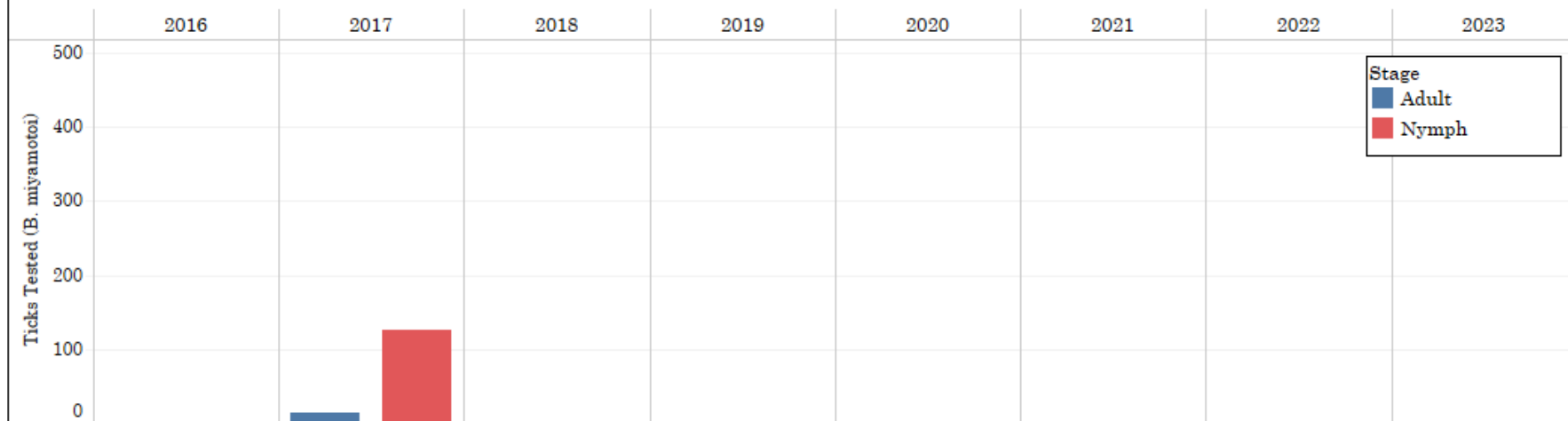
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Mount Tamalpais State Park	Adult	11	0	0.00%
	Nymph	11	0	0.00%

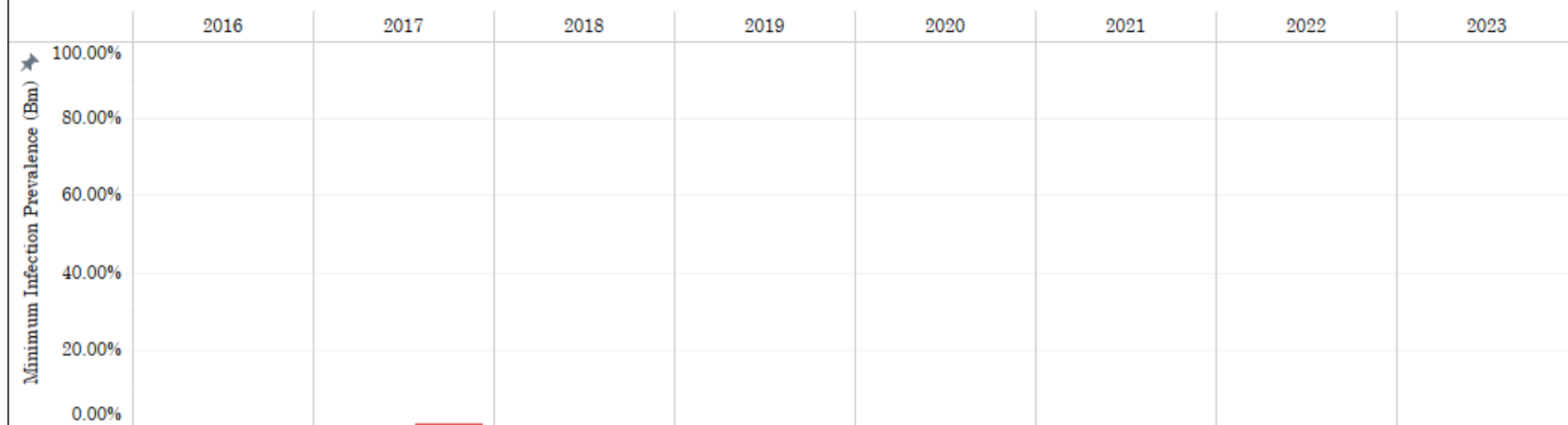
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Old St. Hilary's Open Space Preserve - *Ixodes pacificus* Collections 2016 - 2023



Old St. Hilary's Open Space Preserve - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



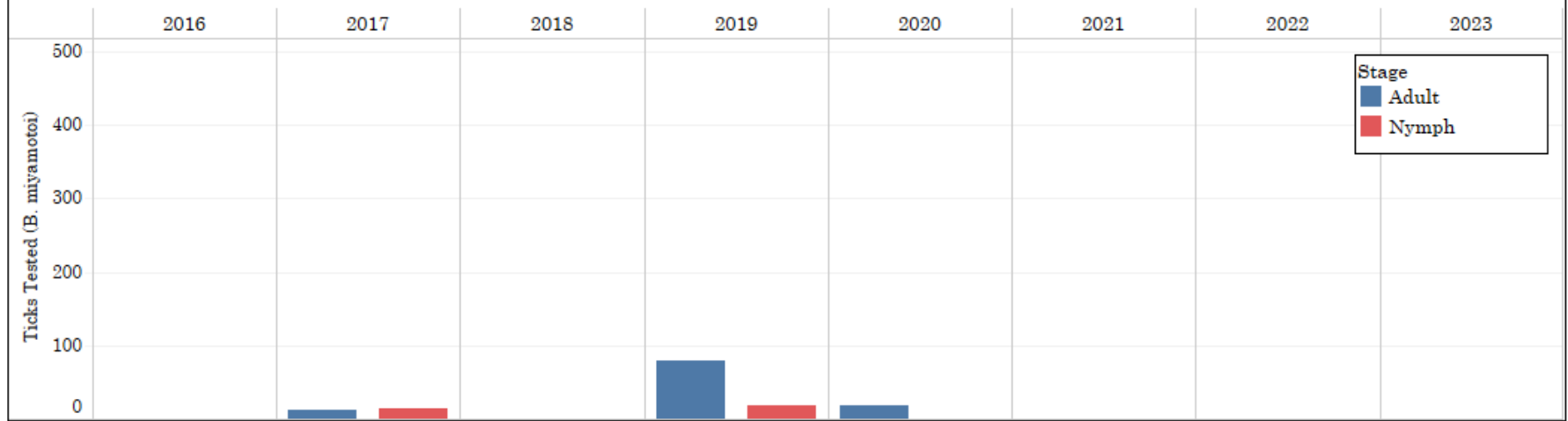
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Old St. Hilary's Open Space Preserve	Adult	14	0	0.00%
	Nymph	125	1	0.80%

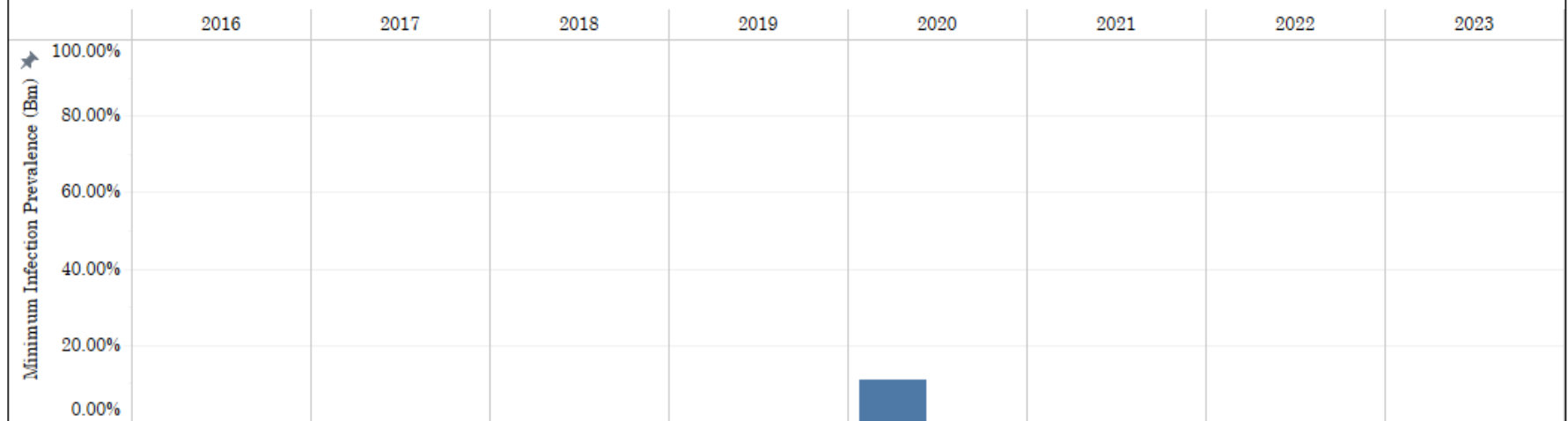
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Olompali State Park - *Ixodes pacificus* Collections 2016 - 2023



Olompali State Park - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



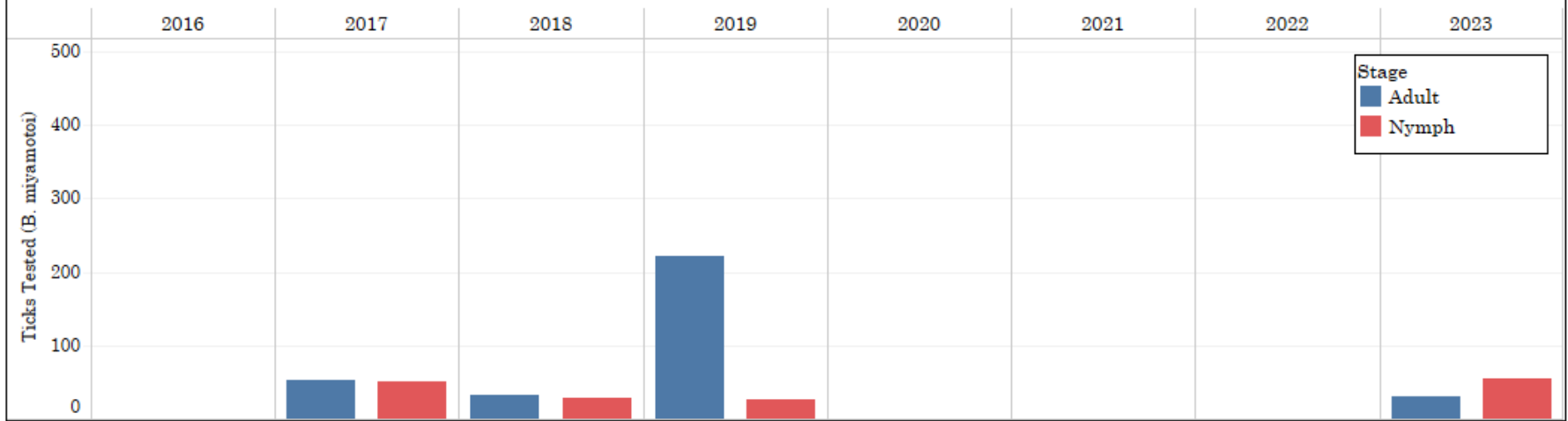
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Olompali State Park	Adult	111	2	1.80%
	Nymph	33	0	0.00%

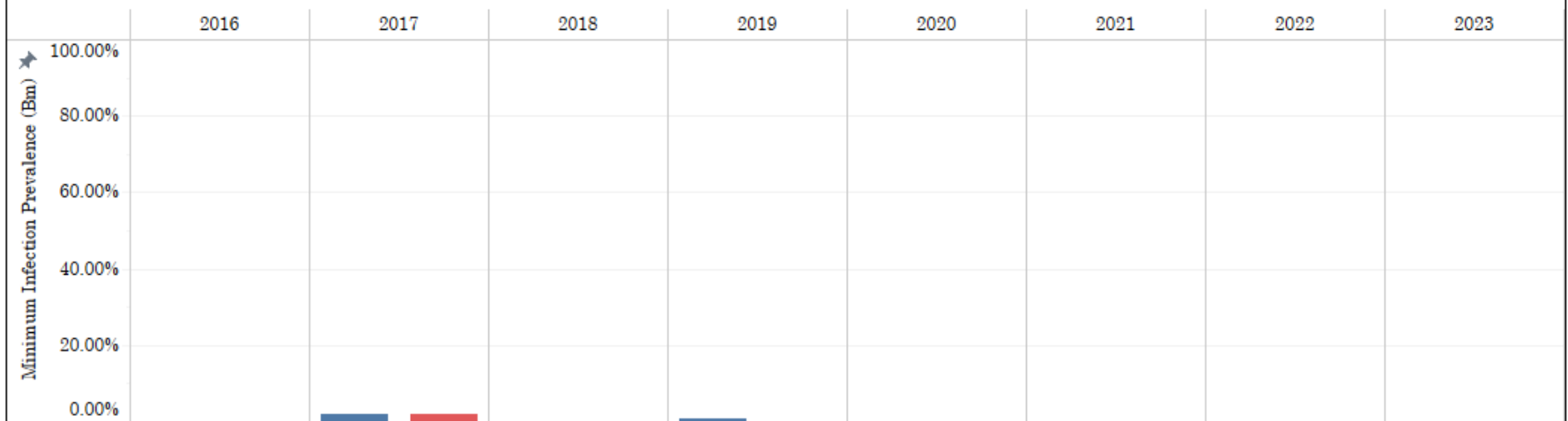
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Roy's Redwoods Open Space Preserve - *Ixodes pacificus* Collections 2016 - 2023



Roy's Redwoods Open Space Preserve - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



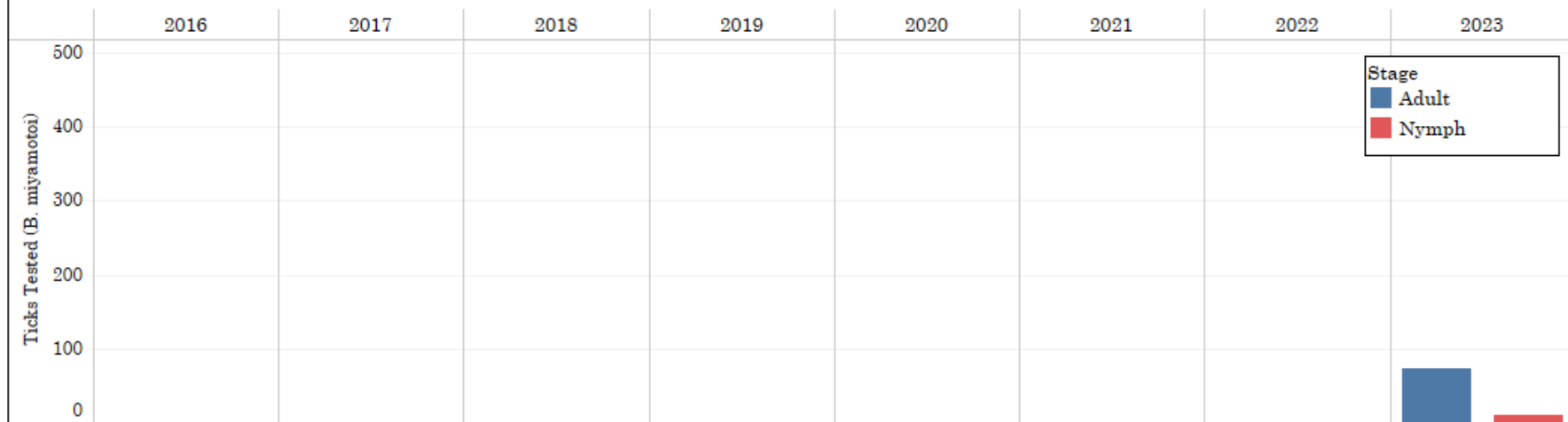
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Roy's Redwoods Open Space Preserve	Adult	335	3	0.90%
	Nymph	162	1	0.62%

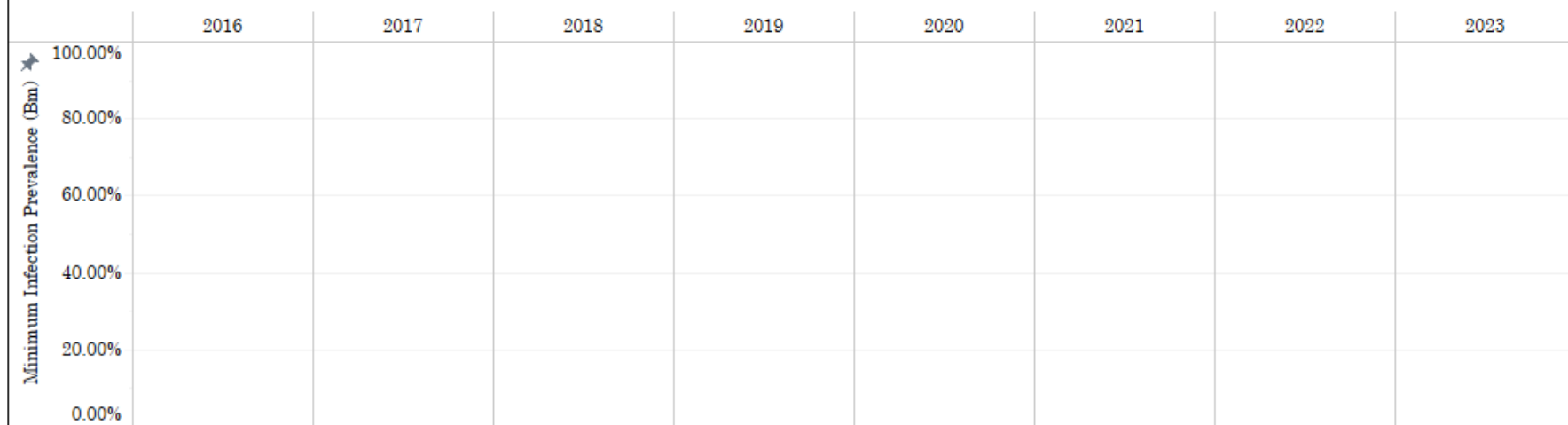
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Samuel P. Taylor State Park - *Ixodes pacificus* Collections 2016 - 2023



Samuel P. Taylor State Park - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Samuel P. Taylor State Park	Adult	73	0	0.00%
	Nymph	11	0	0.00%

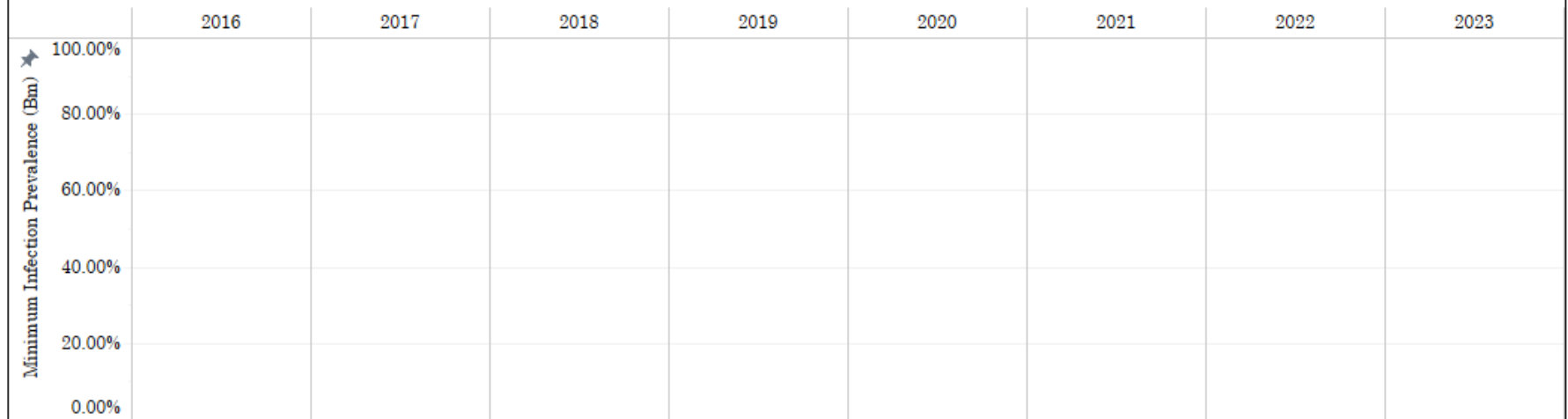
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Tomales Bay State Park - *Ixodes pacificus* Collections 2016 - 2023



Tomales Bay State Park - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



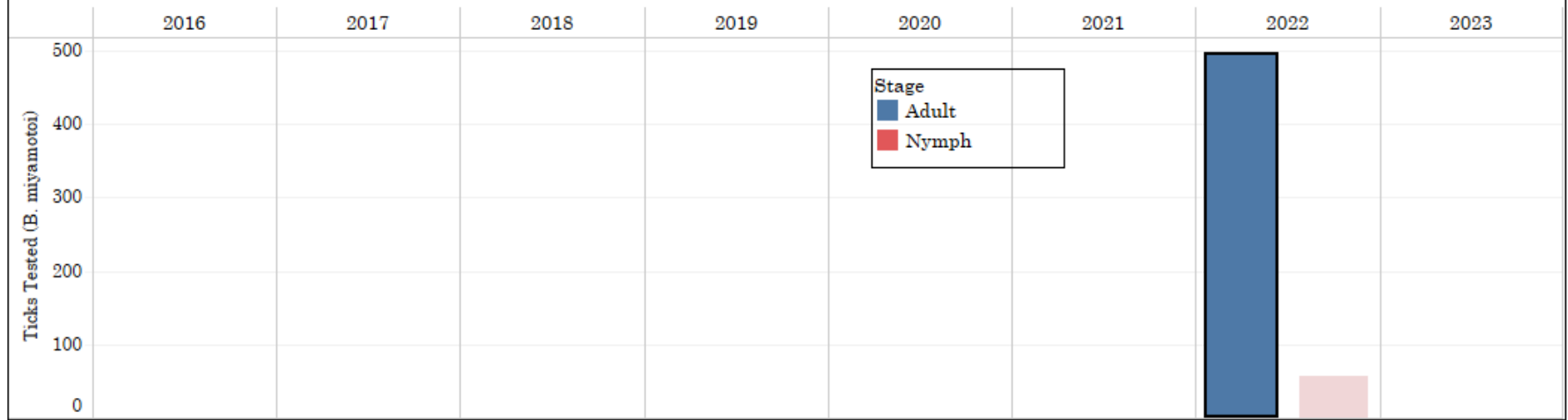
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Tomales Bay State Park	Adult	6	0	0.00%
	Nymph	14	0	0.00%

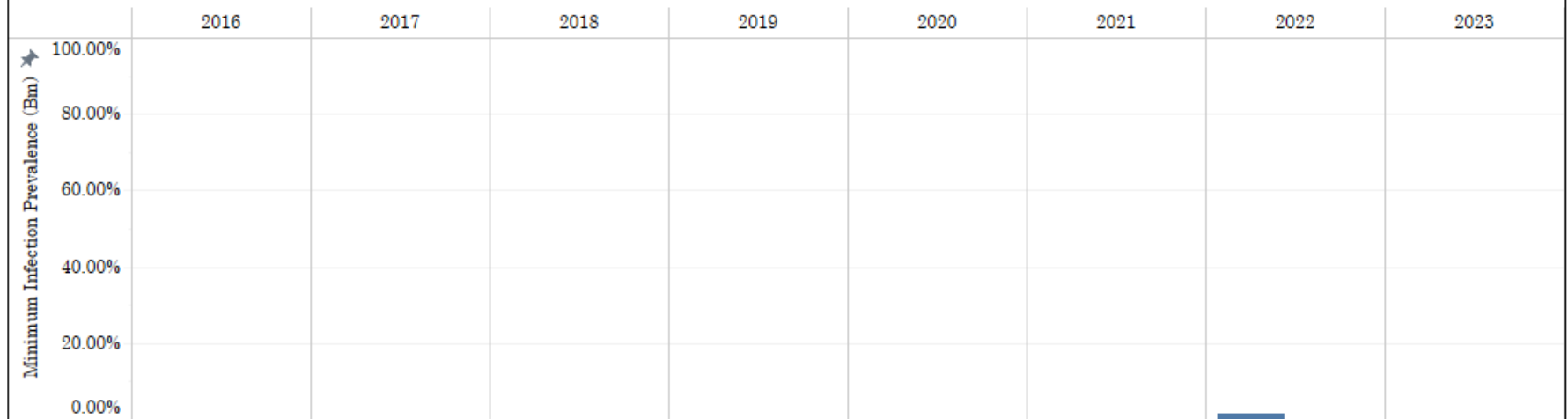
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



White Hill Open Space Preserve - *Ixodes pacificus* Collections 2016 - 2023



White Hill Open Space Preserve - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



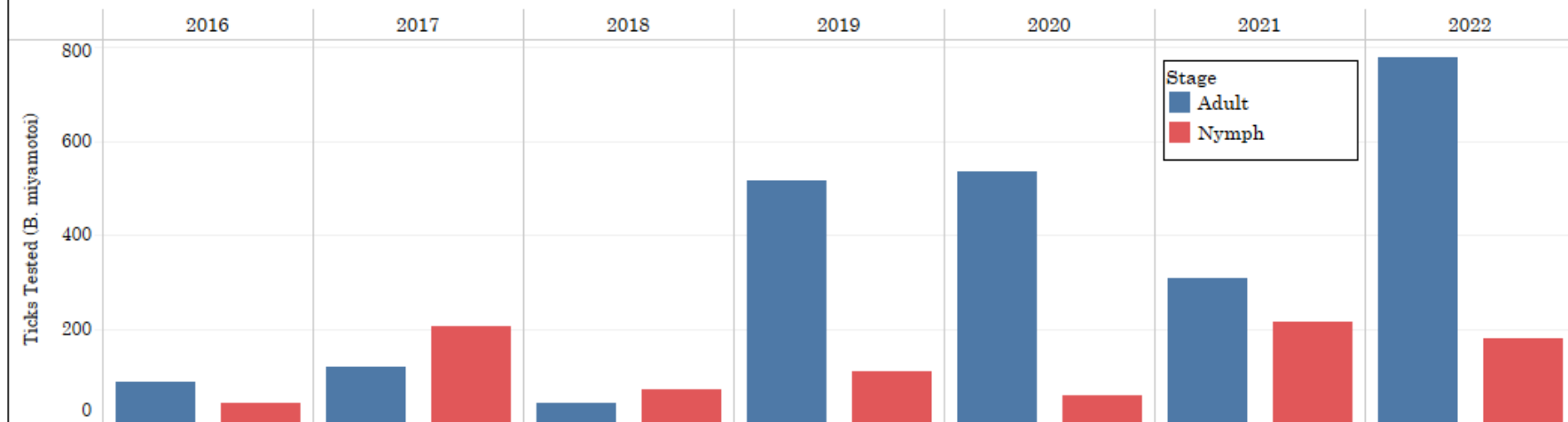
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
White Hill Open Space Preserve	Adult	493	7	1.42%
	Nymph	56	0	0.00%

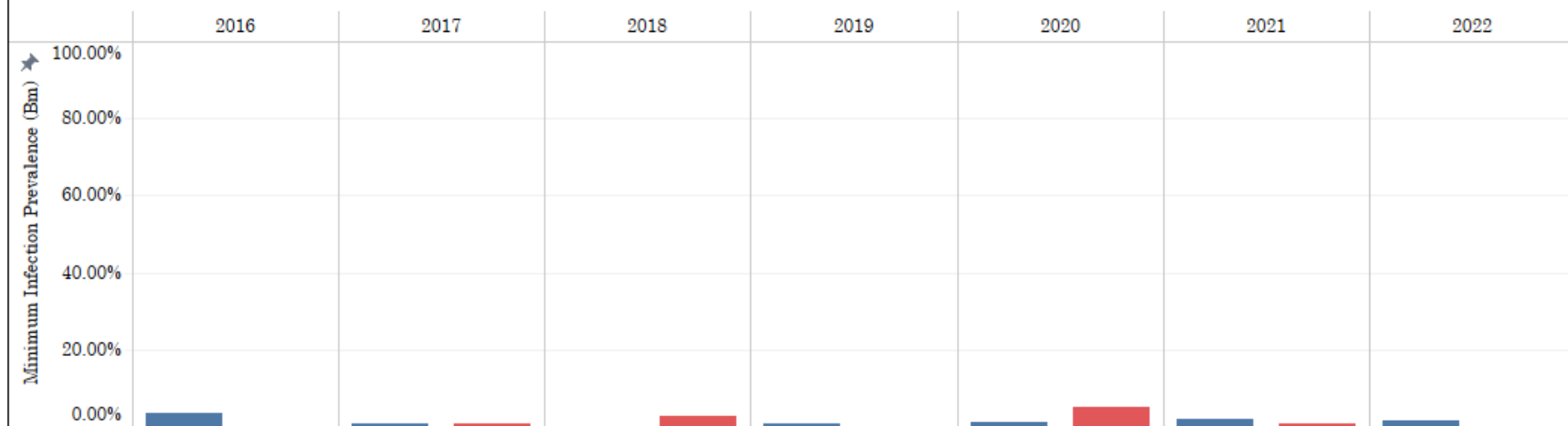
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Marin - *Ixodes pacificus* Collections 2016 - 2023



Marin - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



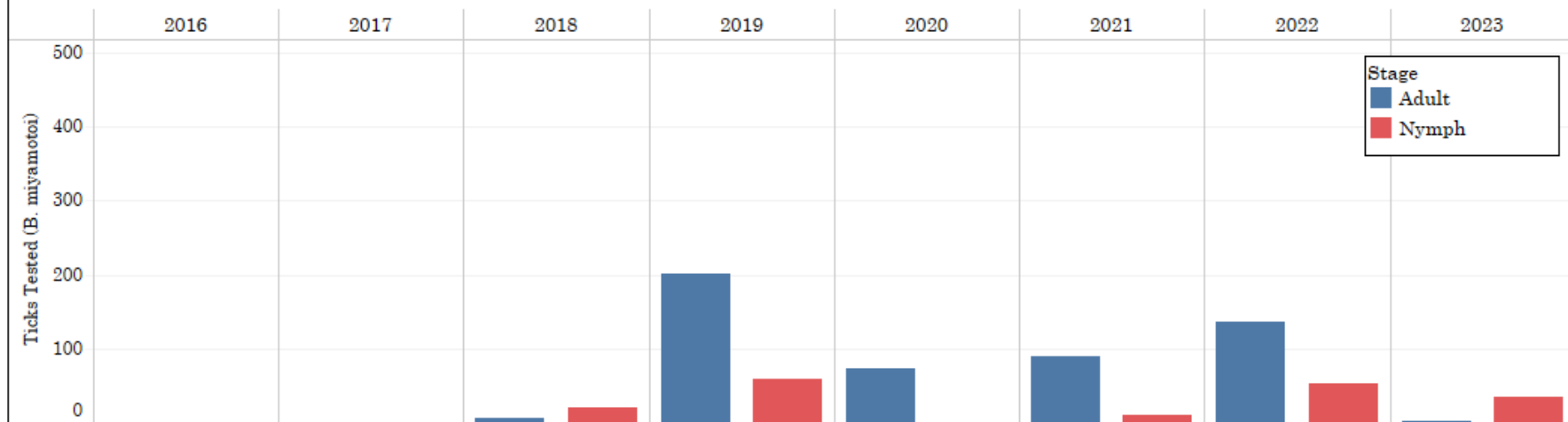
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

County	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Marin	Adult	2,700	37	1.37%
	Nymph	965	9	0.93%

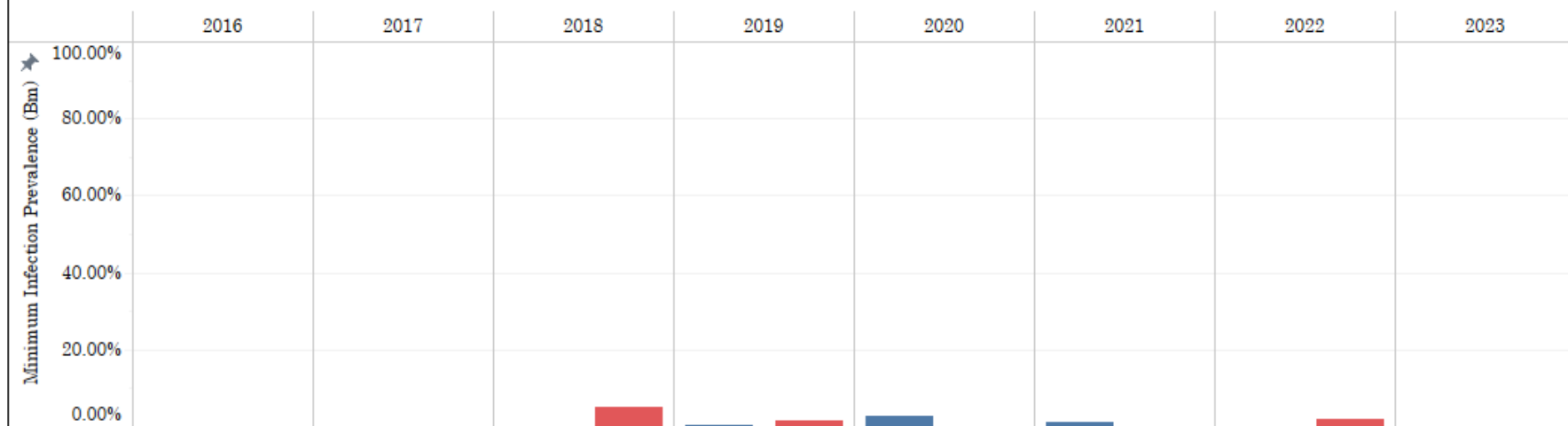
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Annadel State Park - *Ixodes pacificus* Collections 2016 - 2023



Annadel State Park - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



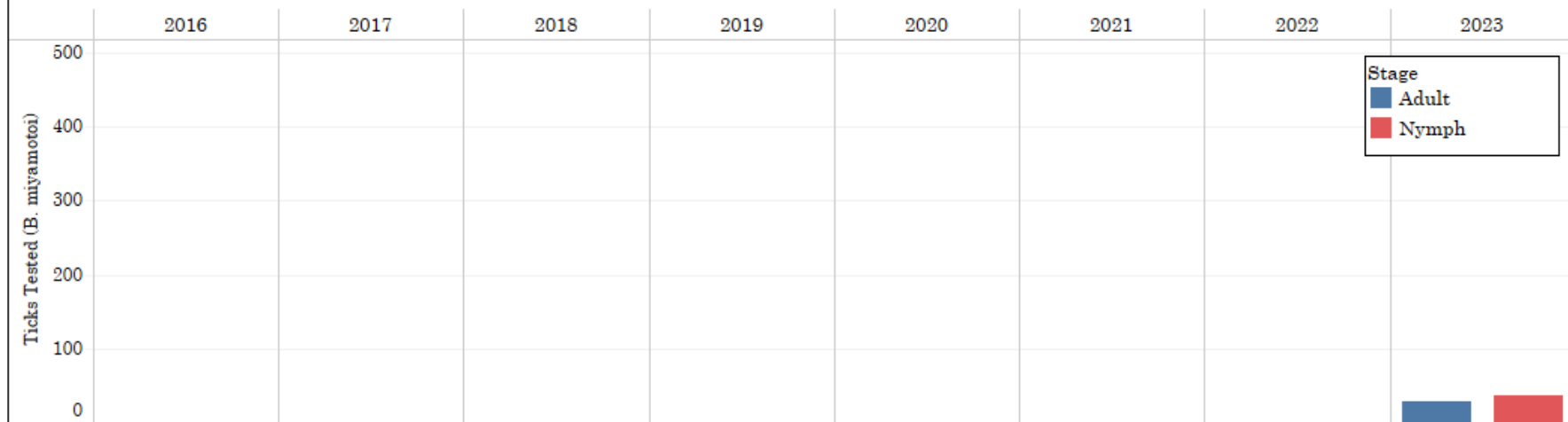
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Annadel State Park	Adult	510	4	0.78%
	Nymph	176	3	1.70%

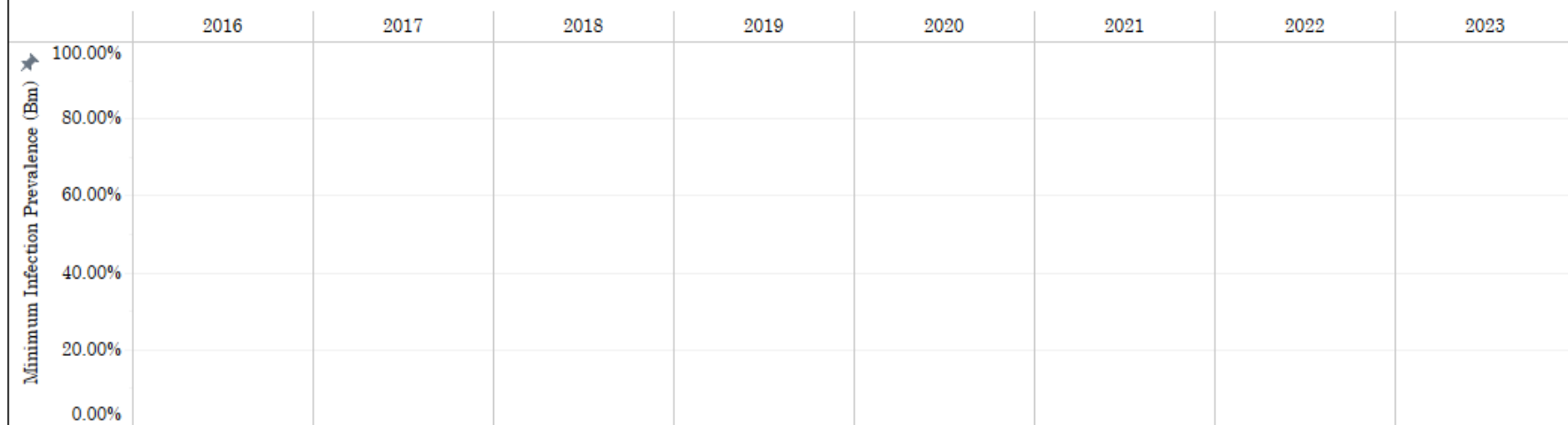
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Armstrong Redwoods State Natural Reserve - *Ixodes pacificus* Collections 2016 - 2023



Armstrong Redwoods State Natural Reserve - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



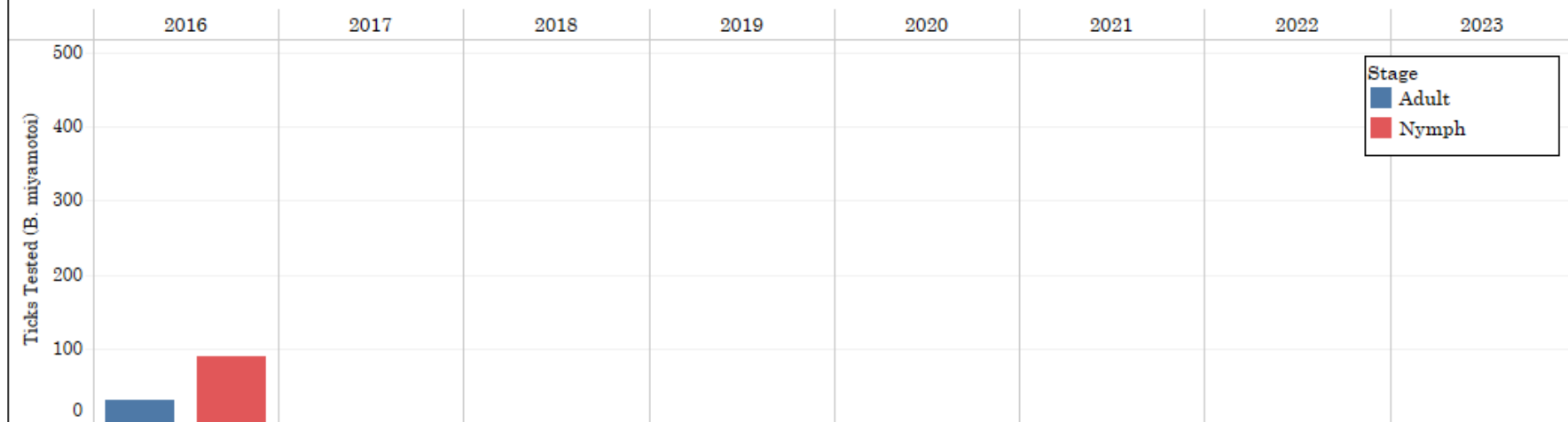
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Armstrong Redwoods State Natural Reserve	Adult	28	0	0.00%
	Nymph	37	0	0.00%

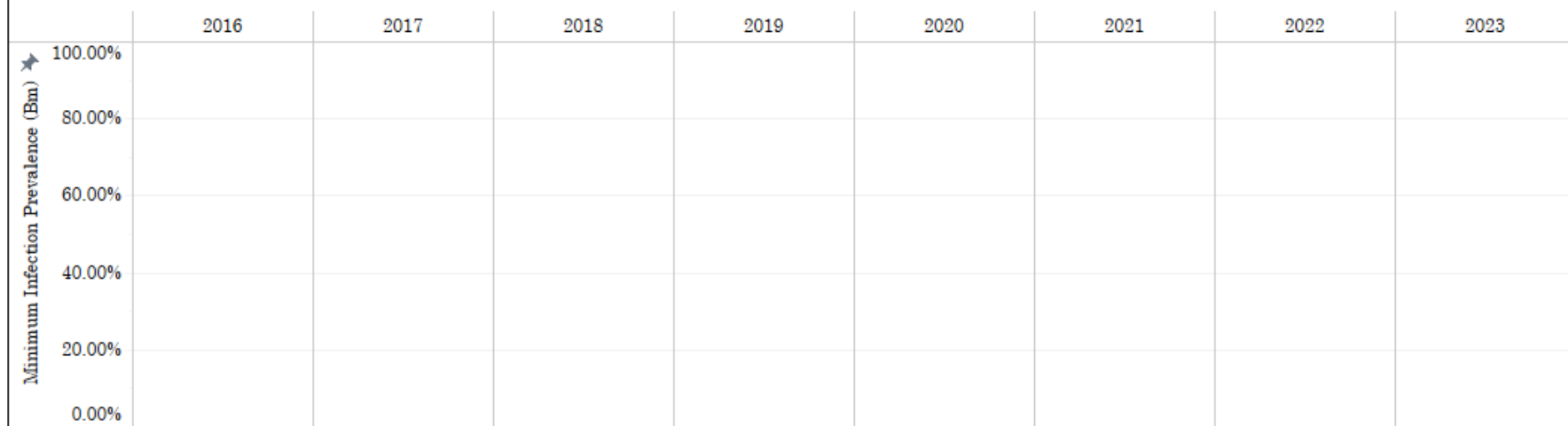
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Austin Creek State Recreation Area - *Ixodes pacificus* Collections 2016 - 2023



Austin Creek State Recreation Area - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



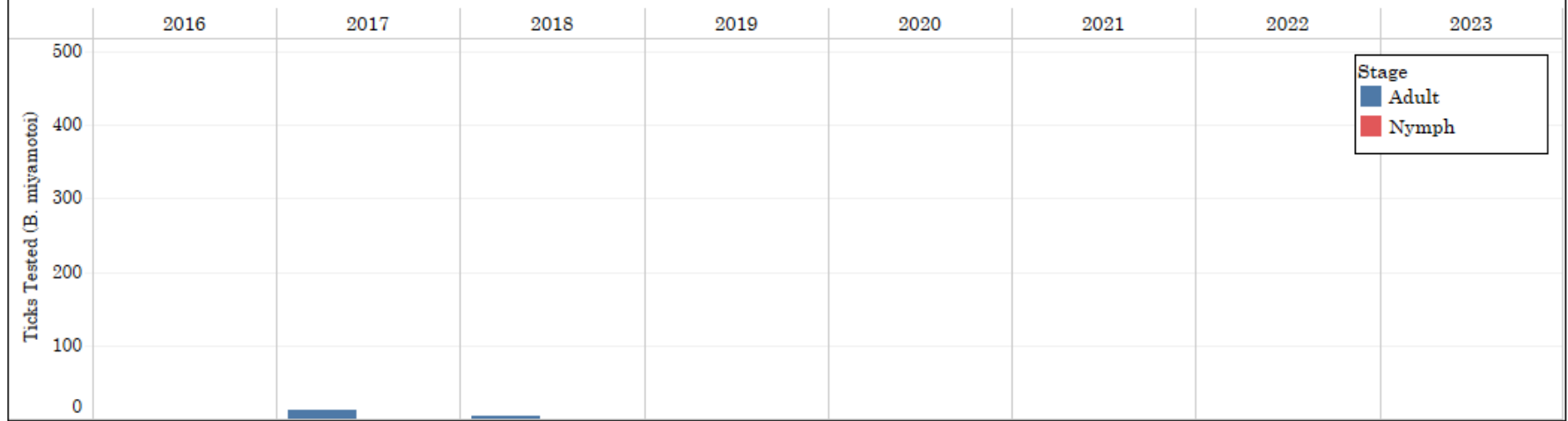
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Austin Creek State Recreation Area	Adult	30	0	0.00%
	Nymph	89	0	0.00%

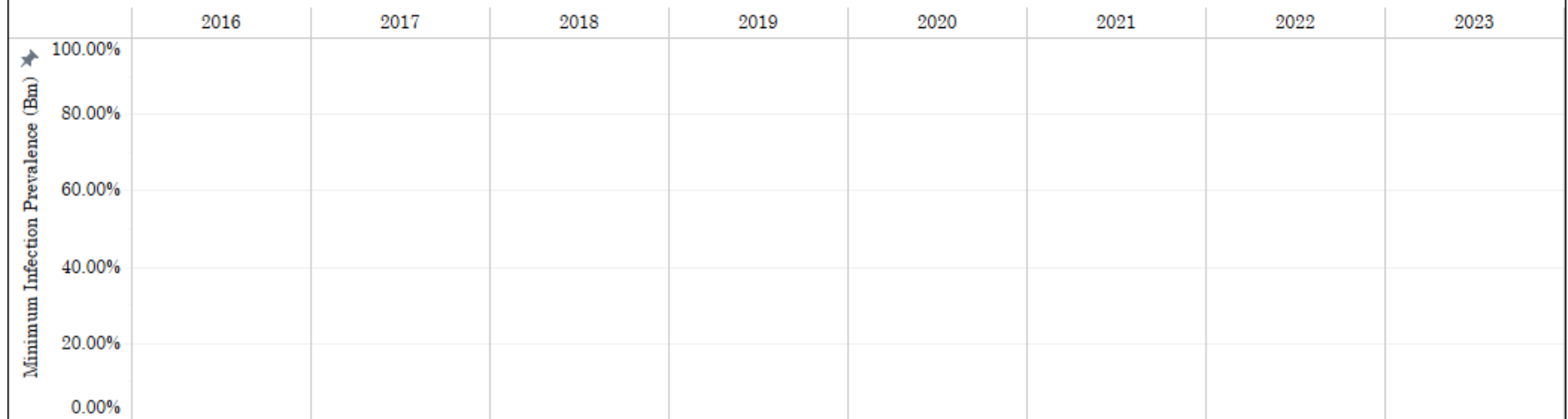
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Crane Creek Regional Park - *Ixodes pacificus* Collections 2016 - 2023



Crane Creek Regional Park - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



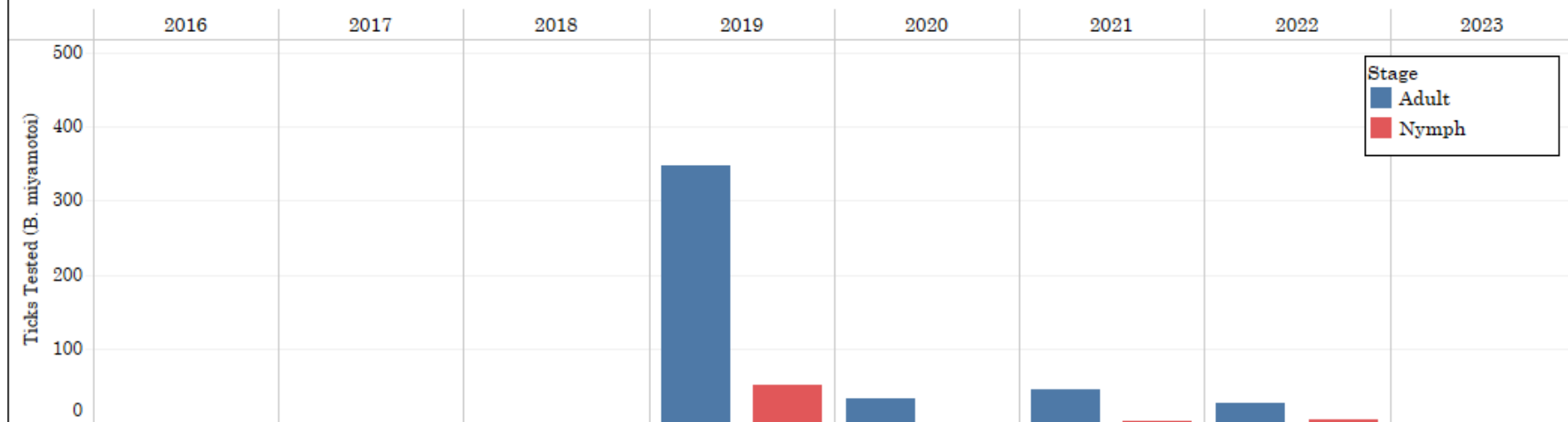
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Crane Creek Regional Park	Adult	17	0	0.00%

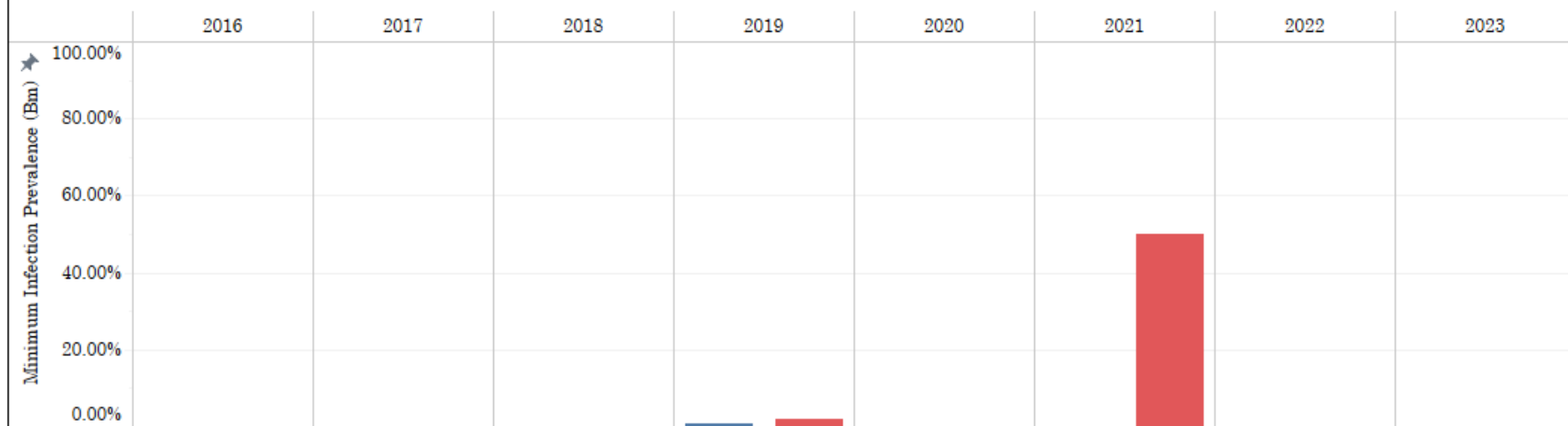
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Foothill Regional Park - *Ixodes pacificus* Collections 2016 - 2023



Foothill Regional Park - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



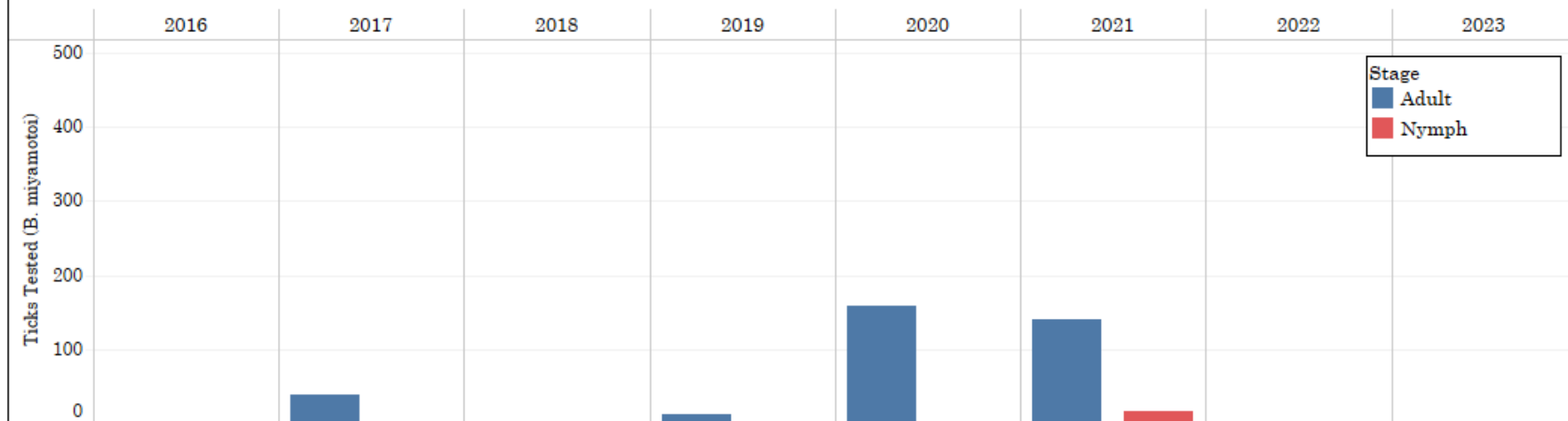
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Foothill Regional Park	Adult	453	3	0.66%
	Nymph	57	2	3.51%

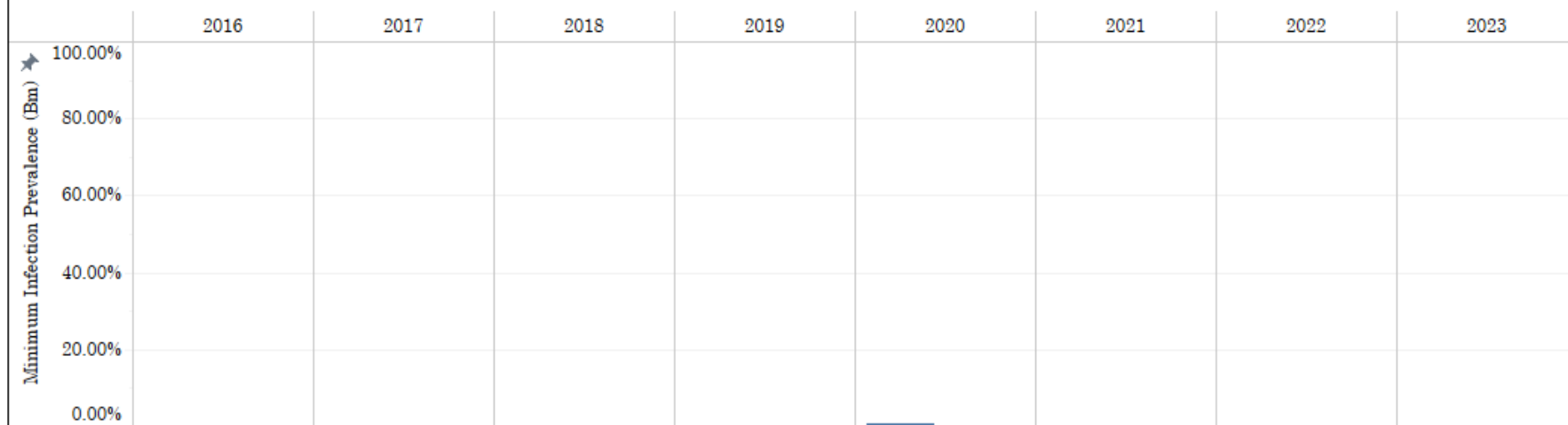
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Helen Putnam Regional Park - *Ixodes pacificus* Collections 2016 - 2023



Helen Putnam Regional Park - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



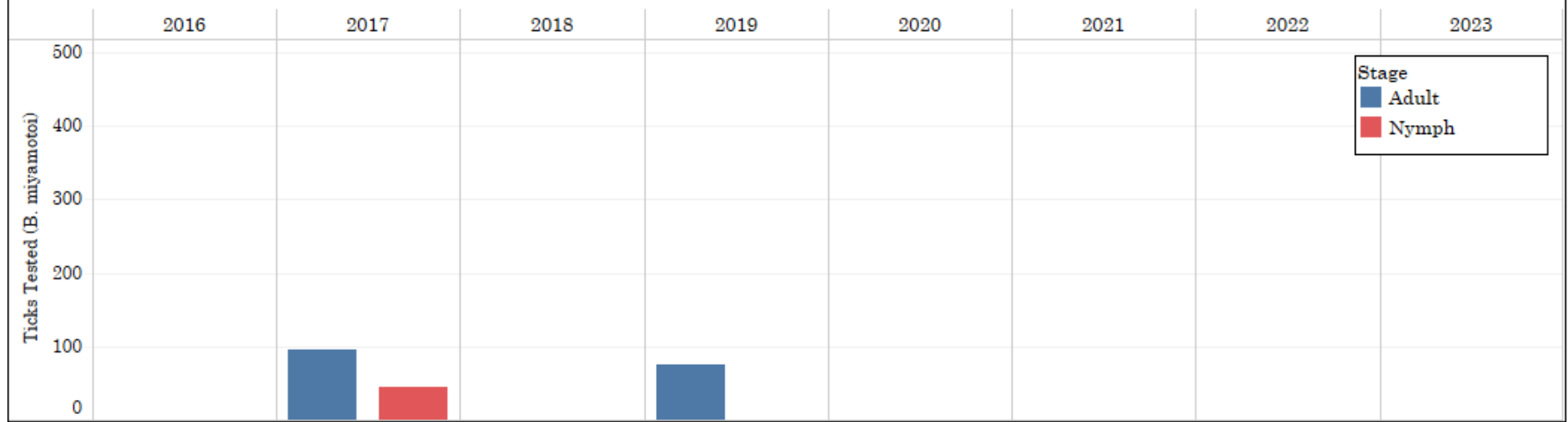
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Helen Putnam Regional Park	Adult	350	1	0.29%
	Nymph	17	0	0.00%

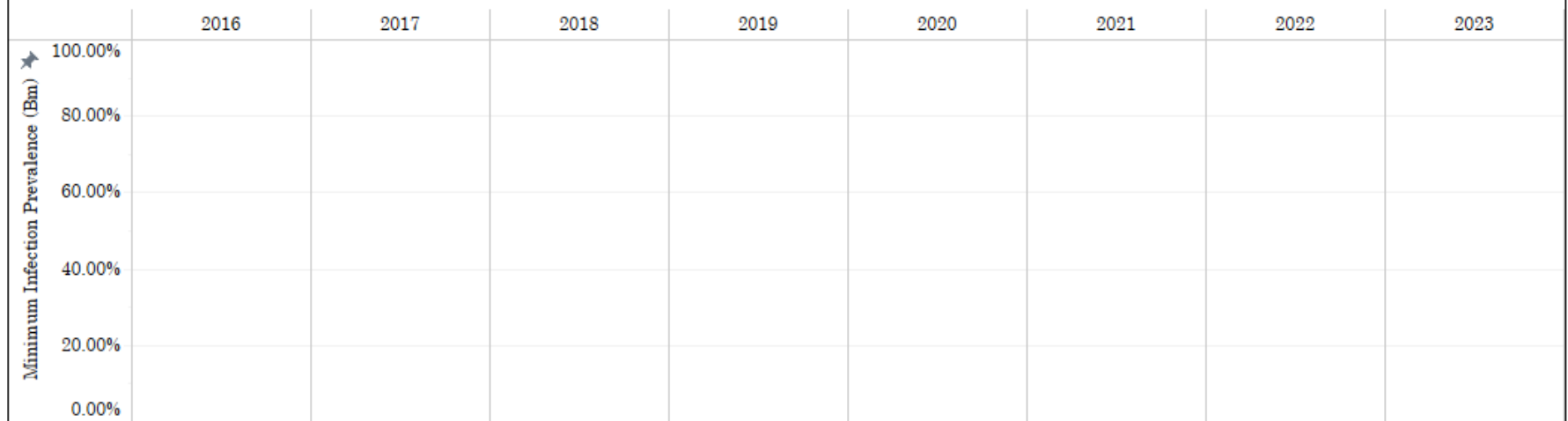
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Hood Mountain Regional Park - *Ixodes pacificus* Collections 2016 - 2023



Hood Mountain Regional Park - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



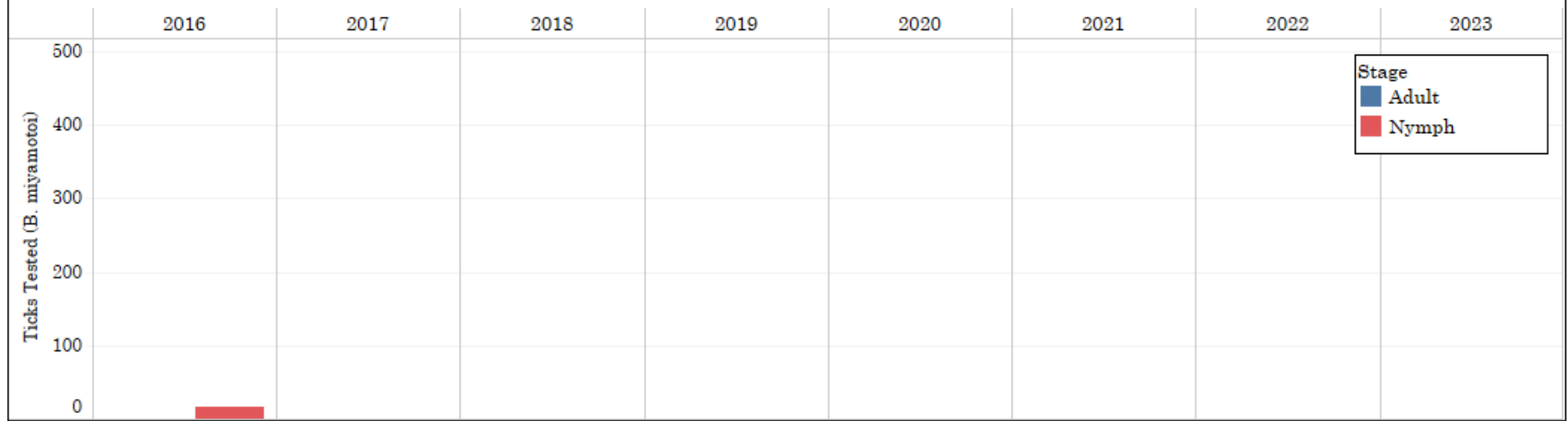
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Hood Mountain Regional Park	Adult	170	0	0.00%
	Nymph	45	0	0.00%

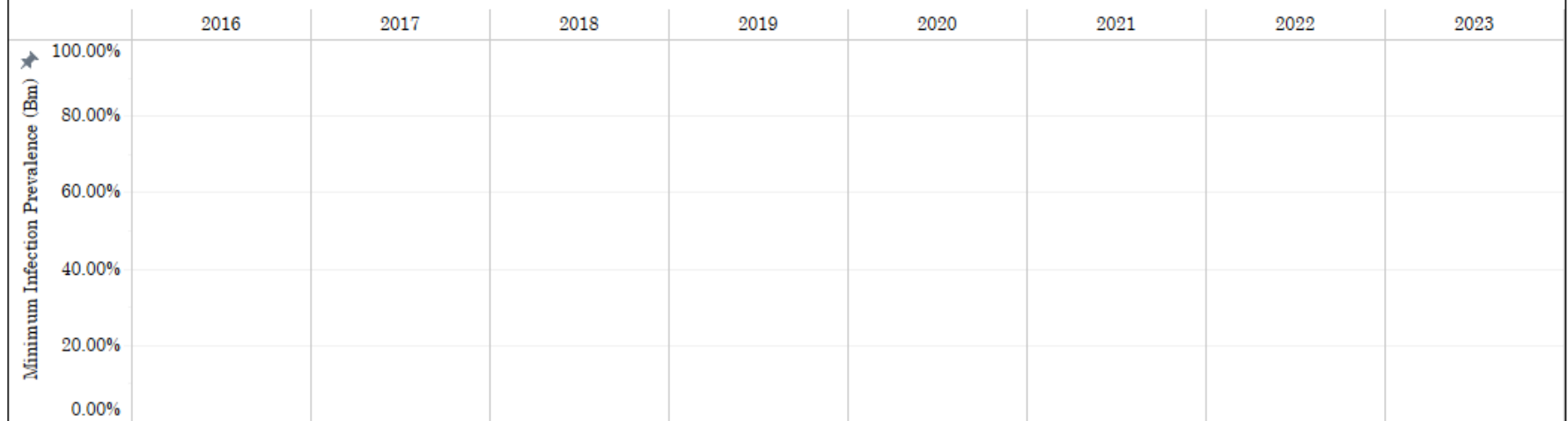
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Howarth Park - *Ixodes pacificus* Collections 2016 - 2023



Howarth Park - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



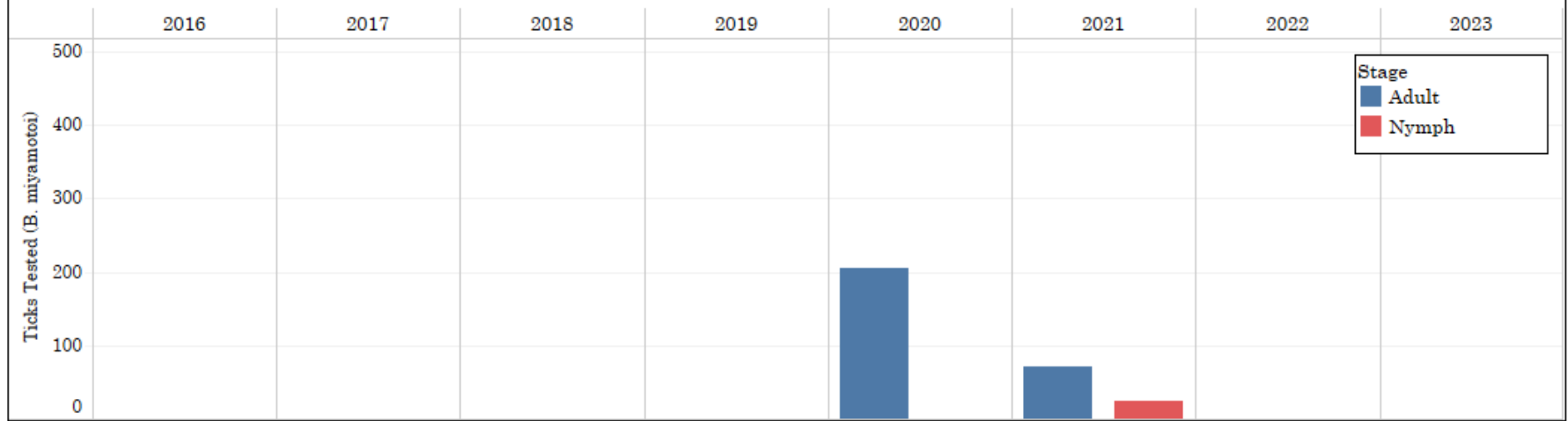
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Howarth Park	Nymph	18	0	0.00%

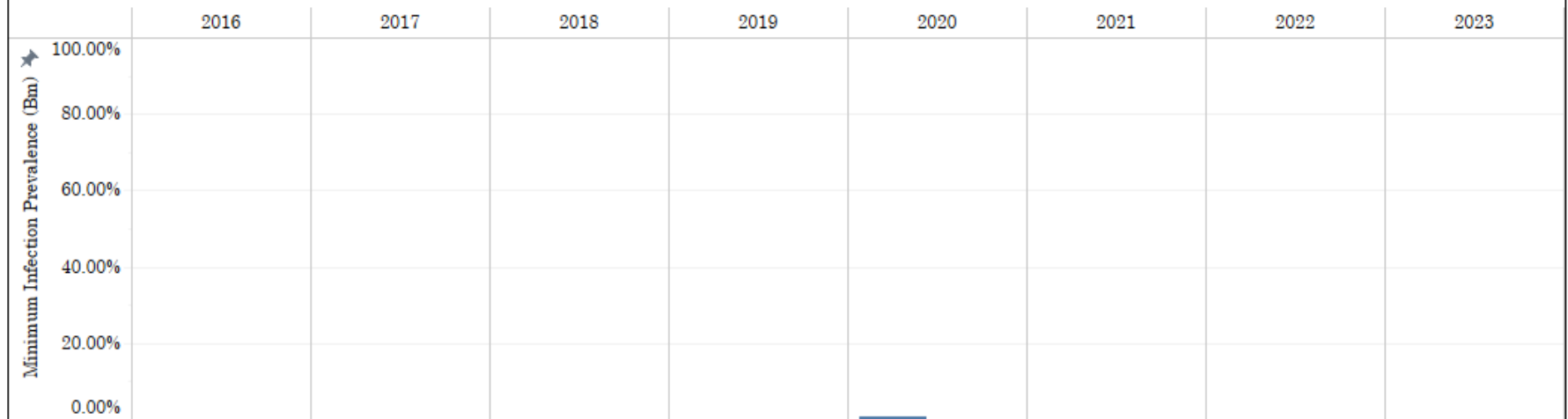
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Jack London State Park - *Ixodes pacificus* Collections 2016 - 2023



Jack London State Park - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



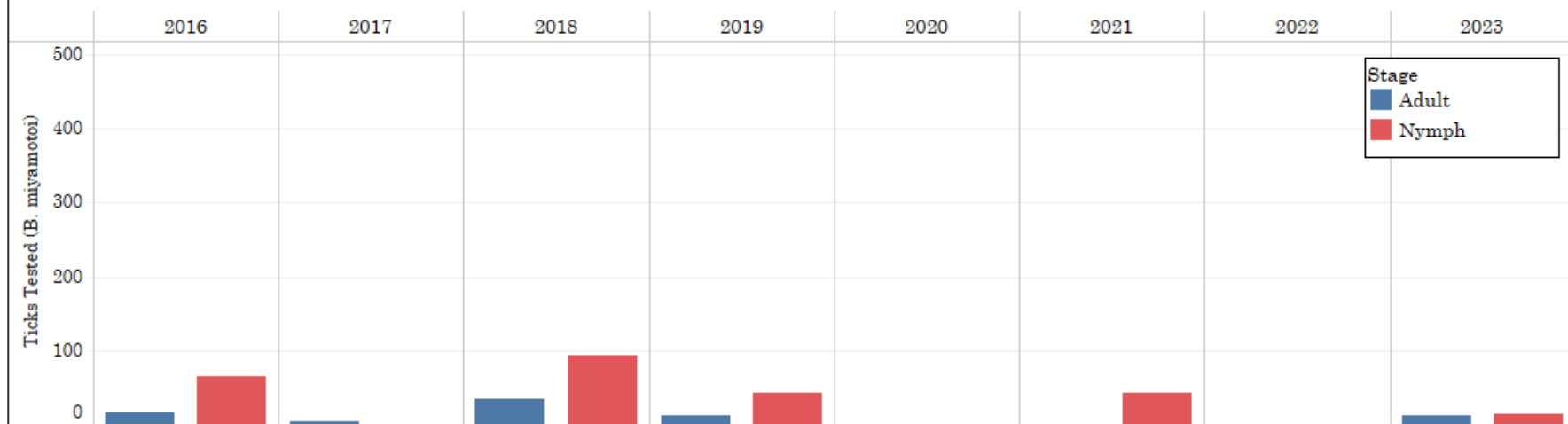
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Jack London State Park	Adult	276	2	0.72%
	Nymph	25	0	0.00%

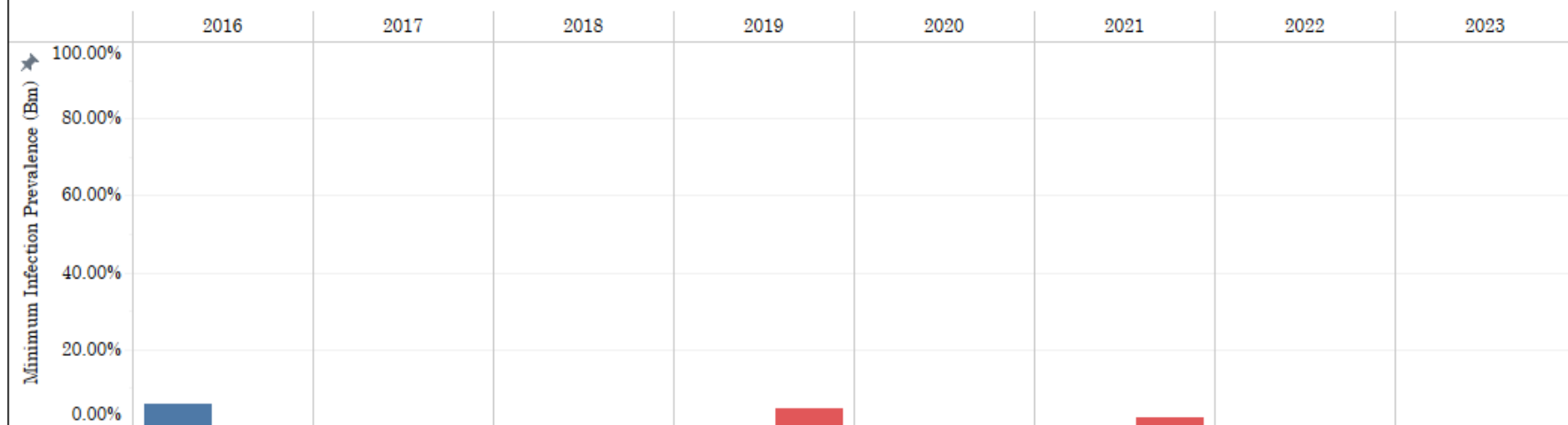
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



North Sonoma Mountain Regional Park - *Ixodes pacificus* Collections 2016 - 2023



North Sonoma Mountain Regional Park - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



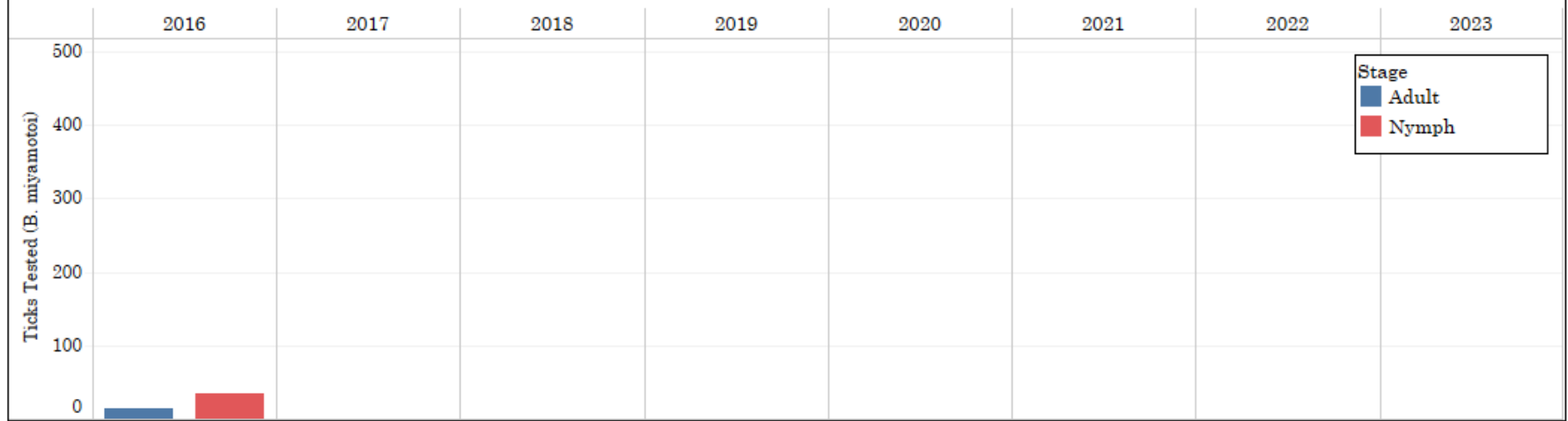
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
North Sonoma Mountain Regional Park	Adult	81	1	1.23%
	Nymph	256	3	1.17%

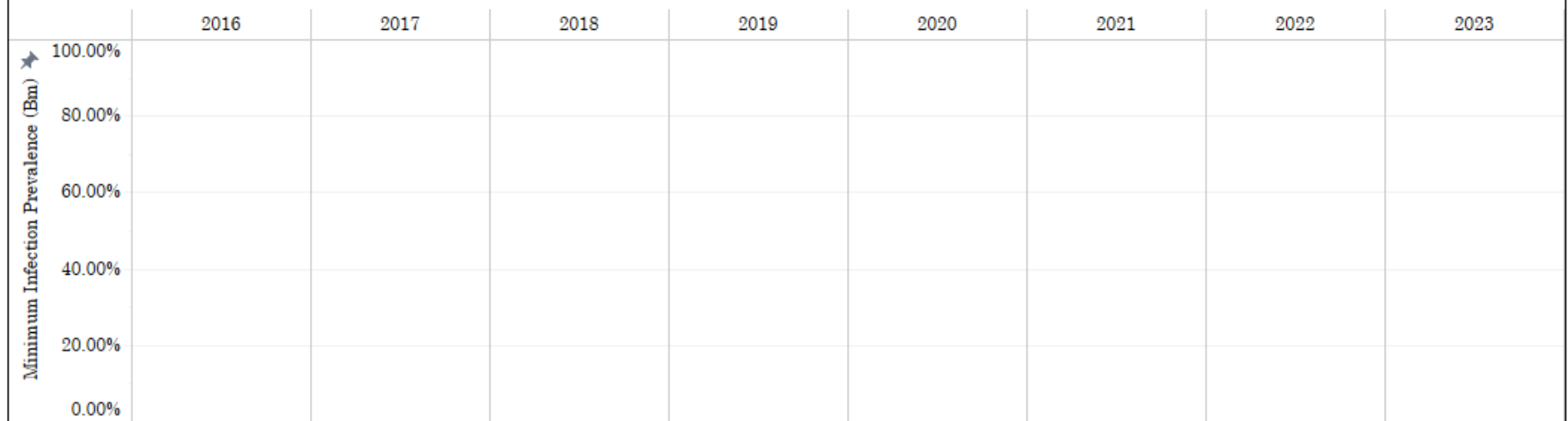
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Shiloh Ranch Regional Park - *Ixodes pacificus* Collections 2016 - 2023



Shiloh Ranch Regional Park - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



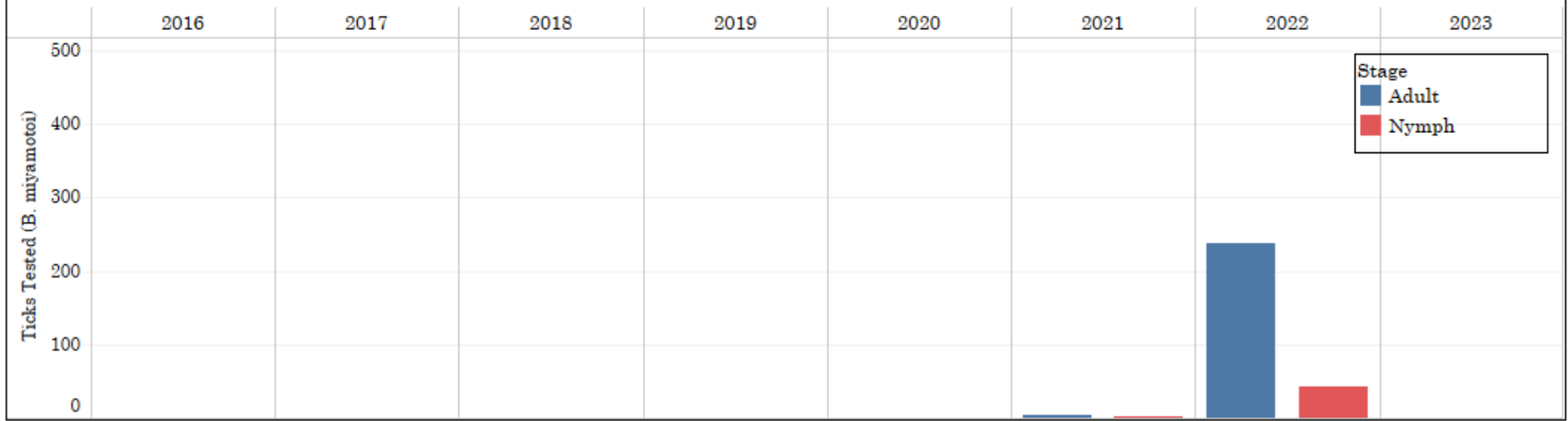
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Shiloh Ranch Regional Park	Adult	15	0	0.00%
	Nymph	34	0	0.00%

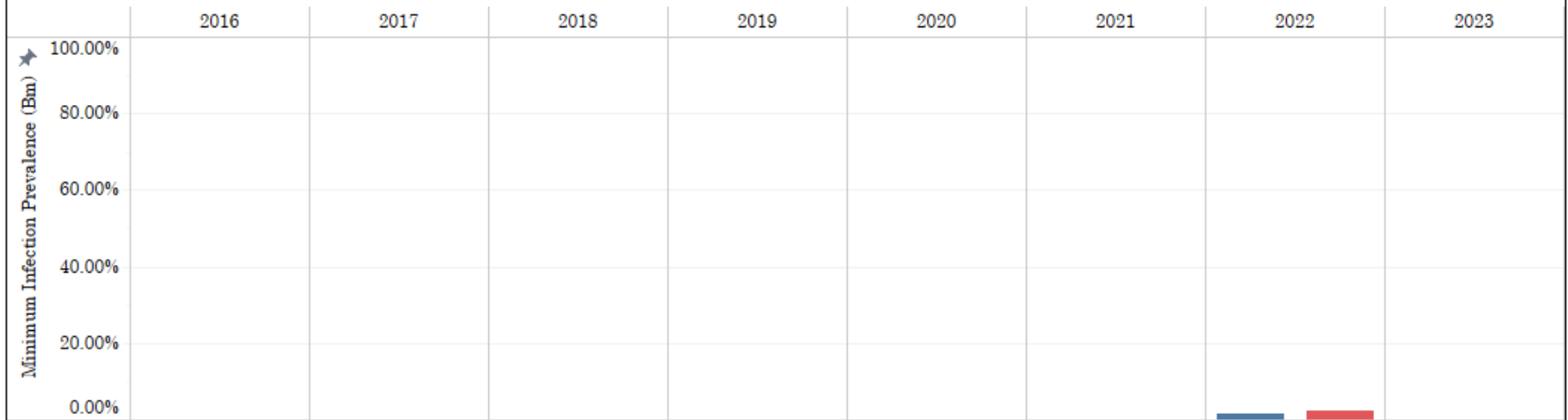
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Spring Lake Regional Park - *Ixodes pacificus* Collections 2016 - 2023



Spring Lake Regional Park - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Spring Lake Regional Park	Adult	241	4	1.66%
	Nymph	44	1	2.27%

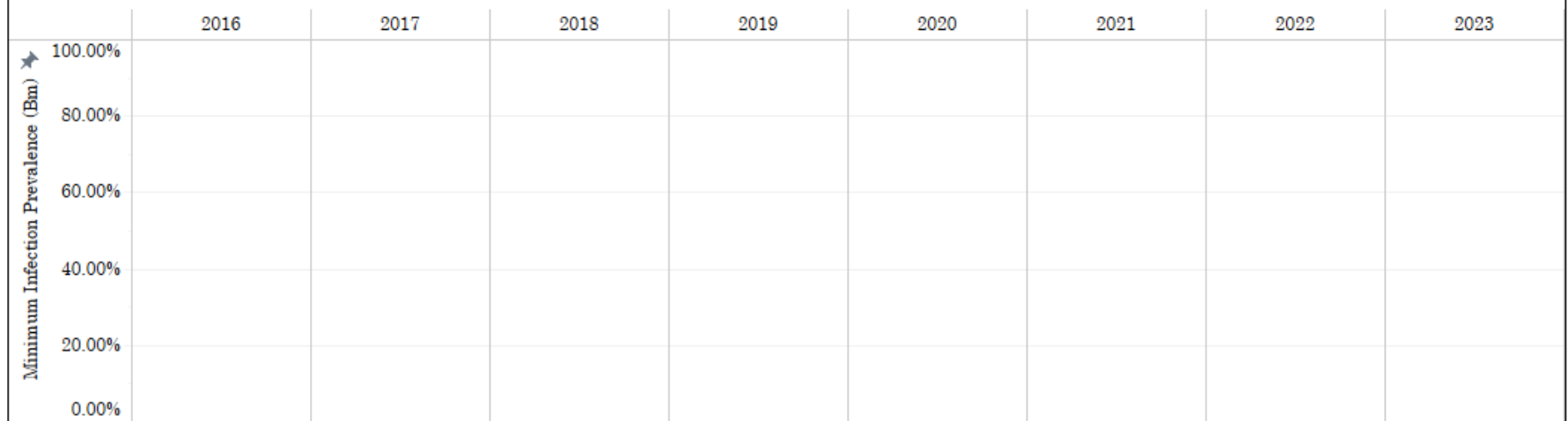
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Stillwater Cove Regional Park - *Ixodes pacificus* Collections 2016 - 2023



Stillwater Cove Regional Park - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



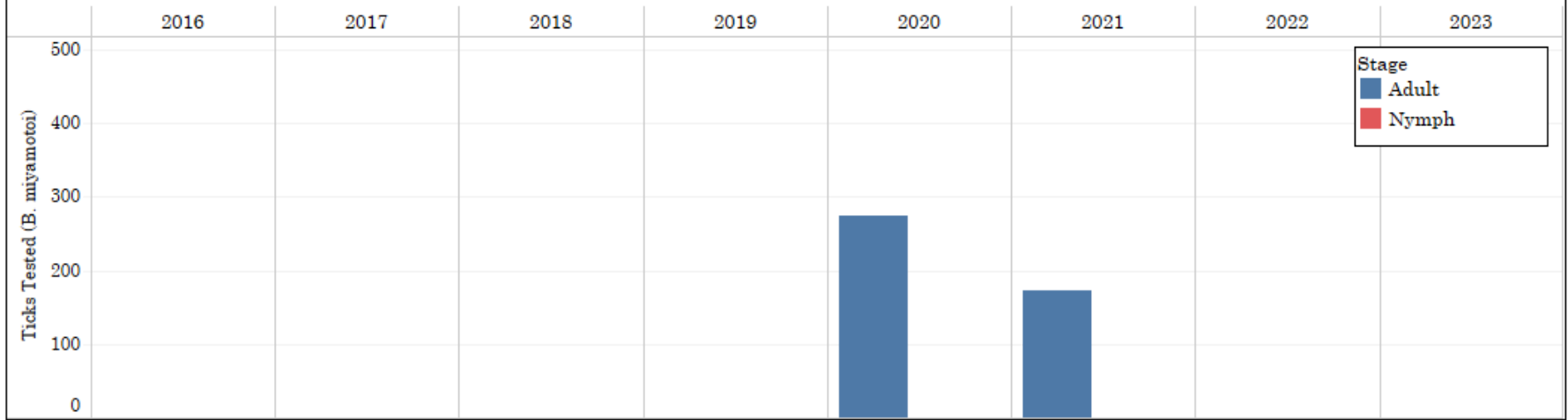
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (B. miyamotoi)	B. miyamotoi (+) pools	Minimum Infection Prevalence (Bm)
Stillwater Cove Regional Park	Adult	112	0	0.00%
	Nymph	18	0	0.00%

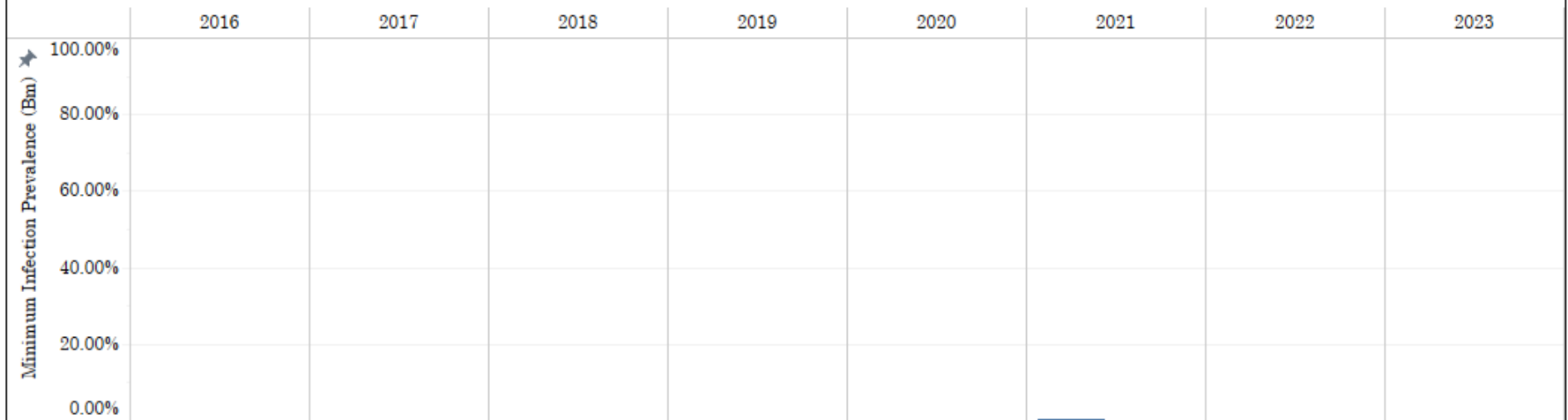
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Taylor Mountain Regional Park - *Ixodes pacificus* Collections 2016 - 2023



Taylor Mountain Regional Park - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



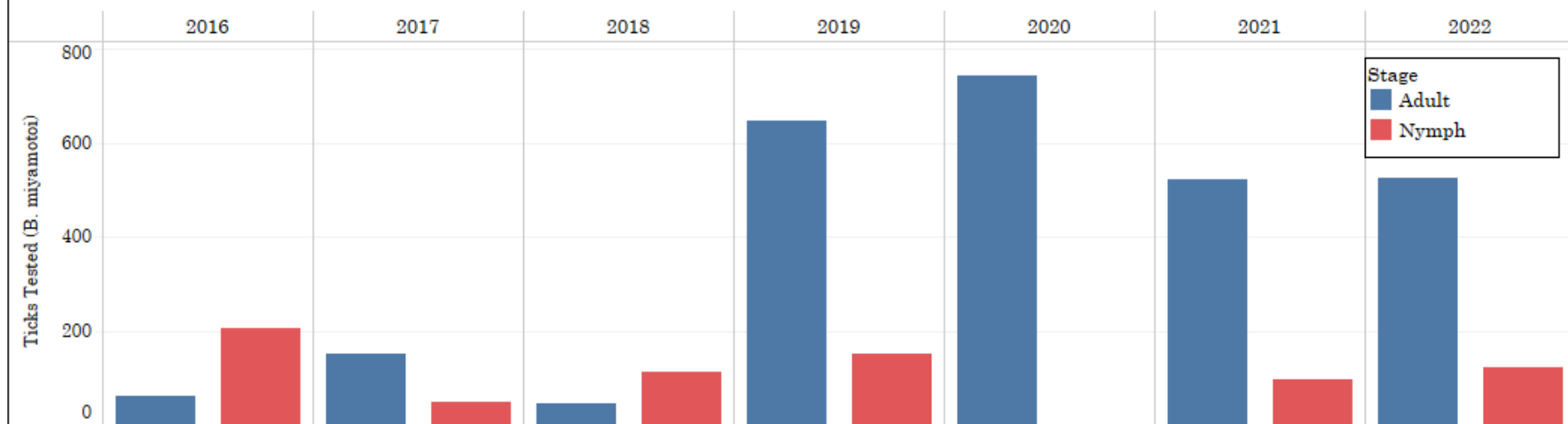
Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

Park	Stage	Ticks Tested (B. miyamotoi)	B. miyamotoi (+) pools	Minimum Infection Prevalence (Bm)
Taylor Mountain Regional Park	Adult	446	1	0.22%

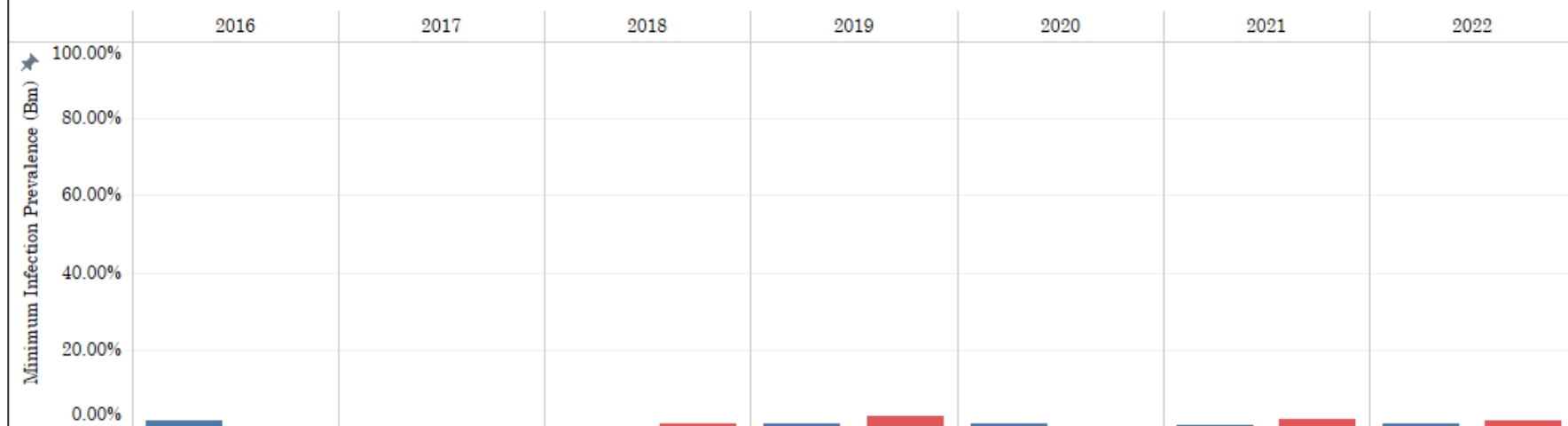
Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100



Sonoma - *Ixodes pacificus* Collections 2016 - 2023



Sonoma - *Borrelia miyamotoi* Adult and Nymphal MIPs 2016 - 2023



Ixodes pacificus tested for *Borrelia miyamotoi* 2016 - 2023

County	Stage	Ticks Tested (<i>B. miyamotoi</i>)	<i>B. miyamotoi</i> (+) pools	Minimum Infection Prevalence (Bm)
Sonoma	Adult	2,914	19	0.65%
	Nymph	832	9	1.08%

Minimum Infection Prevalence (MIP) = (+) tick pools/total ticks tested * 100

