

Sports as Co-curricular Activities in New Hampshire High Schools

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The main purpose of schools is the formal education of our kids. Curricula, lessons, libraries, books, and teachers are the main tools that are part of that formal education. We know that these differ significantly across the hundreds of New Hampshire public schools.

But schools are also the place where informal learning takes place. Informal learning activities include robotics club, international night, school plays, the student newspaper, model United Nations, comic book club, and many, many others. Among the most common of these co-curricular activities are organized school sports.

It is not now possible to conduct an analysis of how all co-curricular activities vary among our schools. The NH Department of Education does not seem to collect data in this regard from the schools.

The only source of some centrally organized data is related to high school sports. The NH Interscholastic Athletic Association (NHIAA) helps organize competitive sports: establishing rules, setting schedules, and providing game officials. Lacking any source of data on other co-curricular activities, this paper uses data from the NHIAA website to see how sports vary across our public high schools.

For the 2020-21 school year, NHIAA's website listed 33 sports and identified which of the 79 high schools participated in each.ⁱ

As shown in Table 1, the only teams fielded by all high schools were boys' basketball and baseball. Only one high school lacked a girls' basketball team and two lacked softball teams.

Most people know and understand that sports, like other co-curricular activities, are more likely to be available in high schools with higher enrollments. In fact, for many sports, the NHIAA organizes schools into divisions so that schools of differing size compete primarily among comparable schools.

Table 1. Sports Offered in NH High Schools

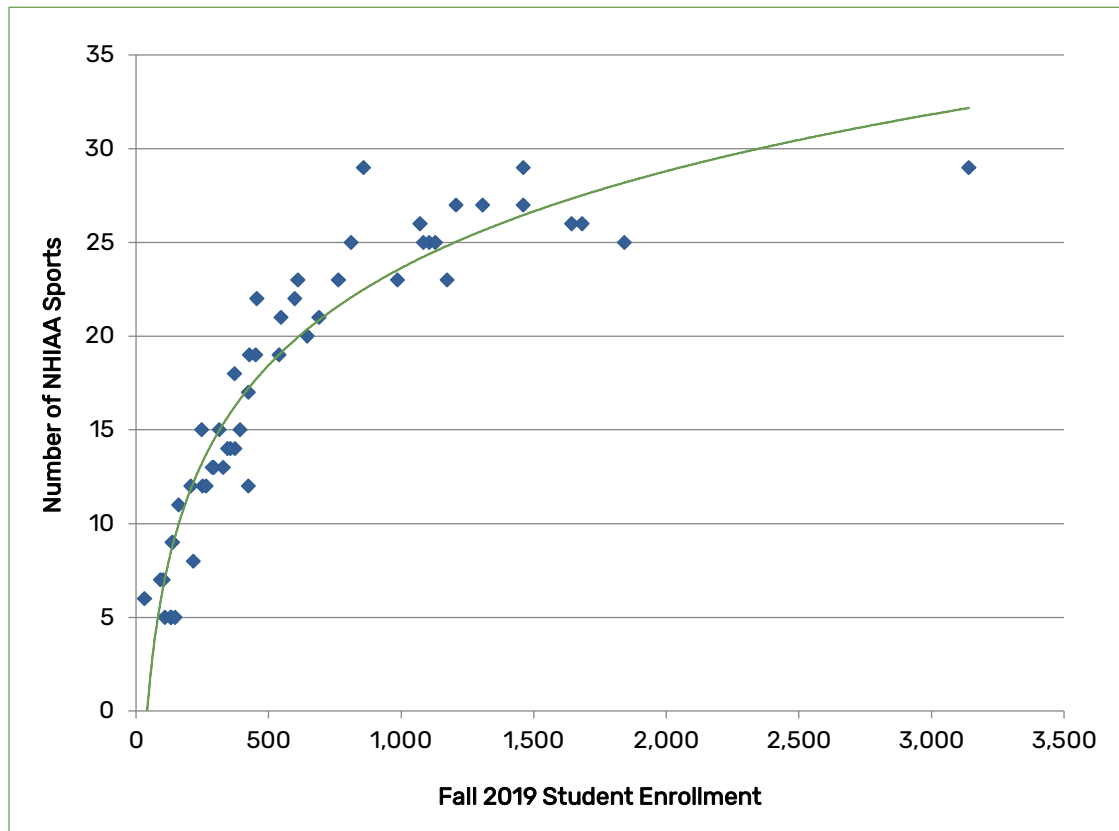
Sport	Number of Schools Offering
Boys' Basketball	79
Baseball	79
Girls' Basketball	78
Softball	77
Boys' Soccer	73
Boys' & Girls' Cross Country	67
Outdoor Track	67
Football	60
Boys' & Girls' Golf	59
Boys' & Girls' Indoor Track	56
Spirit	55
Girls' Volleyball	54
Boys' Ice Hockey	54
Boys' & Girls' Alpine Skiing	52
Field Hockey	50
Swimming & Diving	49
Unified Basketball	49
Boys' Tennis	49
Boys' Lacrosse	46
Girls' Lacrosse	46
Girls' Tennis	45
Boys' Wrestling	41
Girls' Soccer	38
Bass Fishing	33
Boys' & Girls' Nordic Skiing	27
Girls' Gymnastics	25
Girls' Ice Hockey	24
Coed Unified Soccer	21
Unified Track	16
Boys' Volleyball	15
Ten-Pin Bowling	15
Unified Volleyball	11
Ski Jumping	7

How Did the Number of Sports Relate to School Size?

Figure 1 displays one dot for each of New Hampshire’s 79 high schools. The horizontal axis is the fall 2019 enrollment for each high school and the vertical axis is the number of NHIAA sports in which that school participated during the 2020-21 school year. A logarithmic trend line is displayed. A linear regression is not appropriate because there is a fixed maximum of 33 sports.

Figure 1 clearly shows the fewer number of sports available in small high schools.

Figure 1. Number of NHIAA High School Sports by Enrollment



Nevertheless, there are some differences not correlated with school size. For example, Pittsfield High School, with 147 students, had only 5 team sports, while Moultonborough Academy, with 20 more students, had 16 sports available. Hollis-Brookline High School, with 858 students, had 29 of the 33 sports, while Nashua North High School with 1,682 students, almost twice the size, had only 26 sports. Bow High School and Nashua South High School both had 25 sports available to their students. Bow had only 634 students, while Nashua South had 1,842, nearly three times as many.

How many sports are available depends largely on school size. Which sports are available depends on a number of factors. The availability of necessary facilities at the school or in the community is among them.

Table 2. New Hampshire High Schools by Enrollment and Number of Sports Offered

Enrollment	Number of Sports Offered	High School	Enrollment	Number of Sports Offered	High School
3,141	29	Pinkerton Academy	504	21	Kearsarge Regional High School
1,842	25	Nashua High School South	491	23	Gilford High School
1,682	26	Nashua High School North	465	17	Fall Mountain Regional High School
1,643	26	Exeter High School	456	22	Monadnock Regional High School
1,520	28	Concord High School	451	19	Prospect Mountain High School
1,498	27	Bedford High School	427	19	Campbell High School
1,461	29	Dover Senior High School	424	12	Somersworth High School
1,461	27	Londonderry Senior High School	424	17	Winnisquam Regional High School
1,405	27	Manchester Memorial High School	392	15	Newfound Regional High School
1,364	31	Keene High School	373	14	Berlin Senior High School
1,307	27	Spaulding High School	371	18	Conant High School
1,306	26	Manchester Central High School	357	18	Belmont High School
1,207	27	Merrimack High School	357	14	Hillsboro-Deering High School
1,173	23	Salem High School	345	14	Raymond High School
1,129	25	Portsmouth High School	340	18	White Mountains Regional High School
1,106	25	Alvirne High School	329	13	Mascoma Valley Regional High School
1,084	25	Timberlane Regional High School	319	17	Hopkinton High School
1,071	26	Goffstown High School	314	15	Newport Middle High School (High)
1,052	28	Winnacunnet High School	301	17	Inter-Lakes High School
986	23	Windham High School	293	13	Mascenic Regional High School
858	29	Hollis-Brookline High School	287	13	Newmarket Jr.-Sr. High School
832	26	Oyster River High School	264	12	Franklin High School
811	25	Milford High School	251	12	Farmington Senior High School
795	20	Merrimack Valley High School	248	15	Epping High School
784	24	Kingswood Regional High School	216	8	Woodsville High School
783	23	Manchester West High School	207	12	Littleton High School
763	23	Pembroke Academy	167	16	Moultonborough Academy
750	27	Souhegan Coop High School	160	11	Wilton-Lyndeboro Senior High School
742	25	Hanover High School	148	12	Sunapee Sr. High School
713	25	Conval Regional High School	147	5	Pittsfield High School
713	22	Kennett High School	137	9	Hinsdale High School
690	21	Coe-Brown Northwood Academy	136	9	Gorham High School
646	20	Sanborn Regional High School	133	5	Nute High School
635	26	Plymouth Regional High School	130	5	Groveton High School
634	25	Bow High School	124	10	Profile Senior High School
610	23	John Stark Regional High School	109	5	Colebrook Academy
603	26	Lebanon High School	102	7	Lisbon Regional School (High)
599	22	Pelham High School	92	7	Lin-Wood Public School (High)
547	21	Stevens High School	32	6	Pittsburg School (High)
539	19	Laconia High School			

For example, golf, ten-pin bowling, ice hockey, ski-jumping, indoor track, and swimming and diving are not possible if there are no appropriate local facilities where these teams can practice and compete.

When available facilities are not a limiting factor, student enrollment definitely limits which sports may be available. Sports that take place during the same season may not be possible if too many students would rather participate in more popular sports. Examples are lacrosse and tennis.

Table 3. NH High Schools Lacking Both Boys' and Girls' Lacrosse

Enrollment	High School
373	Berlin Senior High School
109	Colebrook Academy and Elementary School (H)
371	Conant High School
248	Epping High School
465	Fall Mountain Regional High School
251	Farmington Senior High School
264	Franklin High School
136	Gorham High School
130	Groveton High School
357	Hillsboro-Deering High School
137	Hinsdale High School
92	Lin-Wood Public School (High)
102	Lisbon Regional School (High)
207	Littleton High School
293	Mascenic Regional High School
329	Mascoma Valley Regional High School
392	Newfound Regional High School
287	Newmarket Jr.-Sr. High School
314	Newport Middle High School (High)
133	Nute High School
32	Pittsburg School (High)
147	Pittsfield High School
124	Profile Senior High School
451	Prospect Mountain High School
345	Raymond High School
646	Sanborn Regional High School
424	Somersworth High School
148	Sunapee Sr. High School
340	White Mountains Regional High School
160	Wilton-Lyndeboro Senior High School
424	Winnisquam Regional High School
216	Woodsville High School

Table 4. NH High Schools Lacking Both Boys' and Girls' Tennis

Enrollment	High School
357	Belmont High School
427	Campbell High School
109	Colebrook Academy and Elementary School (H)
248	Epping High School
465	Fall Mountain Regional High School
251	Farmington Senior High School
264	Franklin High School
136	Gorham High School
130	Groveton High School
357	Hillsboro-Deering High School
137	Hinsdale High School
319	Hopkinton High School
610	John Stark Regional High School
539	Laconia High School
92	Lin-Wood Public School (High)
102	Lisbon Regional School (High)
293	Mascenic Regional High School
329	Mascoma Valley Regional High School
795	Merrimack Valley High School
392	Newfound Regional High School
287	Newmarket Jr.-Sr. High School
314	Newport Middle High School (High)
133	Nute High School
32	Pittsburg School (High)
147	Pittsfield High School
345	Raymond High School
424	Somersworth High School
148	Sunapee Sr. High School
424	Winnisquam Regional High School
216	Woodsville High School

Table 5. NH High Schools Lacking Tennis and Lacrosse for Both Boys and Girls

Enrollment	High School
109	Colebrook Academy and Elementary School (H)
248	Epping High School
465	Fall Mountain Regional High School
251	Farmington Senior High School
264	Franklin High School
136	Gorham High School
130	Groveton High School
357	Hillsboro-Deering High School
137	Hinsdale High School
92	Lin-Wood Public School (High)
102	Lisbon Regional School (High)
293	Mascenic Regional High School
329	Mascoma Valley Regional High School
392	Newfound Regional High School
287	Newmarket Jr.-Sr. High School
314	Newport Middle High School (High)
133	Nute High School
32	Pittsburg School (High)
147	Pittsfield High School
345	Raymond High School
424	Somersworth High School
148	Sunapee Sr. High School
424	Winnisquam Regional High School
216	Woodsville High School

Table 6. NH High Schools Lacking Boys' and Girls' Cross Country

Enrollment	High School
109	Colebrook Academy and Elementary School (H)
251	Farmington Senior High School
264	Franklin High School
130	Groveton High School
102	Lisbon Regional School (High)
207	Littleton High School
133	Nute High School
147	Pittsfield High School
424	Somersworth High School
547	Stevens High School
148	Sunapee Sr. High School
216	Woodsville High School

Twenty-four high schools lacked both lacrosse and tennis during the 2020-21 school year, as shown in Table 5. Fall Mountain High School, with enrollment of 465 students, was the largest of the high schools to lack all four teams. In other words, all high schools with more than 465 students had at least one of the four teams during that school year.

The dependence on school size is also clear in the list of high schools that lacked boys' and girls' cross-country teams, as seen in Table 6. Only two schools with more than 300 students lacked such teams.

On the other hand, as shown in Table 7, many high schools lacked Nordic skiing as a sport and that does not appear to be related to school size.

Implications

High school sports are only one aspect of co-curricular activities. Unfortunately, data on non-sports activities are not readily available. It is logical to assume, however, that the way in which the variety of high school sports are largely dependent on school size also holds true for other co-curricular activities.

In a small high school there may be only one winter sport, typically basketball. In larger schools there might also be indoor track, Nordic skiing, gymnastics, and/or wrestling. This gives students in larger schools more choices. Not all students have the ability, body type, or interest to play on a basketball team. In a larger high school, those students will have other opportunities to excel at another activity and to learn to work as part of a team by other means.

Table 7. Nordic Skiing in New Hampshire High Schools

Enrollment	High Schools WITH Boys' and Girls' Nordic Skiing	Enrollment	High Schools LACKING Boys' and Girls' Nordic Skiing
1,520	Concord High School	3,141	Pinkerton Academy
1,498	Bedford High School	1,842	Nashua High School South
1,405	Manchester Memorial High School	1,682	Nashua High School North
1,364	Keene High School	1,643	Exeter High School
1,306	Manchester Central High School	1,461	Dover Senior High School
1,052	Winnacunnet High School	1,461	Londonderry Senior High School
832	Oyster River High School	1,307	Spaulding High School
795	Merrimack Valley High School	1,207	Merrimack High School
784	Kingswood Regional High School	1,173	Salem High School
783	Manchester West High School	1,129	Portsmouth High School
750	Souhegan Coop High School	1,106	Alvirne High School
742	Hanover High School	1,084	Timberlane Regional High School
713	Conval Regional High School	1,071	Goffstown High School
713	Kennett High School	986	Windham High School
635	Plymouth Regional High School	858	Hollis-Brookline High School
634	Bow High School	811	Milford High School
603	Lebanon High School	763	Pembroke Academy
504	Kearsarge Regional High School	690	Coe-Brown Northwood Academy
491	Gilford High School	646	Sanborn Regional High School
465	Fall Mountain Regional High School	610	John Stark Regional High School
357	Belmont High School	599	Pelham High School
340	White Mountains Regional High School	547	Stevens High School
319	Hopkinton High School	539	Laconia High School
301	Inter-Lakes High School	456	Monadnock Regional High School
167	Moultonborough Academy	451	Prospect Mountain High School
148	Sunapee Sr. High School	427	Campbell High School
124	Profile Senior High School	424	Somersworth High School
		424	Winnisquam Regional High School
		392	Newfound Regional High School
		373	Berlin Senior High School
		371	Conant High School
		357	Hillsboro-Deering High School
		345	Raymond High School
		329	Mascoma Valley Regional High School
		314	Newport Middle High School (High)
		293	Mascenic Regional High School
		287	Newmarket Jr.-Sr. High School
		264	Franklin High School
		251	Farmington Senior High School
		248	Epping High School
		216	Woodsville High School
		207	Littleton High School
		160	Wilton-Lyndeboro Senior High School
		147	Pittsfield High School
		137	Hinsdale High School
		136	Gorham High School
		133	Nute High School
		130	Groveton High School
		109	Colebrook Academy & Elem. School
		102	Lisbon Regional School (High)
		92	Lin-Wood Public School (High)
		32	Pittsburg School (High)

Without proof, it seems logical to assume that this is also true for non-sports co-curricular activities. Larger schools provide a wider range of activities to meet the diverse interests of students.

The effect of co-curricular activities on students learning is not measured by any of the typical “outcome” measures used to evaluate school performance: graduation rates, test scores in math, etc.

School Size and School Funding

While larger schools generally have a greater diversity of opportunity in sports and other co-curricular activities, data show that larger districts and schools are also less costly on a per student basis because of efficiencies of scale.

New Hampshire’s 2020 Commission to Study School Funding reported on a possible new formula for calculating the cost of providing an “adequate” education that includes consideration of school district size.

The Commission discussed whether smaller districts should be provided more state aid per student than larger districts to reflect their economies of scale. Doing so, however, could provide an incentive for districts to stay small and even an incentive for larger cooperative districts to splinter into smaller ones in order to gain more state aid.

ⁱ Bud Carlson Academy, Manchester School of Technology, and Rivendell Academy do not appear in the NHIAA list of schools either because they do not have teams or because they do not participate in the NHIAA.