

Needs Assessment for Outdoor Sports Facilities

Prepared for:
The Town of Killingworth, CT

April 22, 2004

Prepared by:

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CHA Project No. 12004

Needs Assessment for Outdoor Sports Facilities, Killingworth, CT

The Town of Killingworth recently proposed construction of the Killingworth Recreation Complex (KRC) at the former Bosco property. The KRC will be a centrally located town park and sports complex that will provide for the current and future needs of this growing community. A town-wide referendum conducted in the fall of 2003 for the design and construction of the KRC failed to pass, presumably because of the project's costs and questions regarding its need.

This report will provide town officials with the information to make informed decisions on the programming of facilities at the KRC and how best to plan and construct the facilities. For example, town officials may elect to phase construction of the KRC and therefore reduce its initial costs if this assessment indicated that the need or demand for any of the proposed facilities were less than earlier anticipated.

This Needs Assessment was conducted using a modified Level of Service (LOS) approach to determine citizen demand for outdoor sports services. The LOS is a needs-based and facility driven methodology to make a reasonable determination of the facilities needed to provide the level of services desired by residents.

Following is a table summarizing the findings of this Needs Assessment for outdoor sports facilities in Killingworth (data derived from Tables 3.1 and 3.2; numbers were rounded to the nearest whole number of facility units):

Sport	Current No. of Fields ¹	Current 2004 Field Surplus or (Deficit)	Projected 2014 Field Surplus or (Deficit)	Existing & Proposed ² No. of Fields ¹	Projected 2014 Field Surplus or (Deficit) After Proposed Construction
Softball	0	(1)	(2)	1	(1)
Little League (60' baseline)	1	(2)	(3)	4	0
Baseball (90' baseline)	1	(1)	(1)	1	(1)
T-Ball/ Instructional Baseball/ Softball	2	(1)	(2)	3	(1)
Half-Size Multi-Purpose Fields³	2	0	(1)	4	1
Full-Size Multi-Purpose Fields⁴	1	(2)	(3)	4	0

¹ Reflects the fact that certain outdoor sports facilities are not available 100% of the time or for the exclusive use of the Town of Killingworth youth or Parks and Recreation programs.

² Proposed Killingworth Middle School and proposed Killingworth Recreation Complex on Route 81.

³ Half-size field Hockey, football, lacrosse, soccer, etc.

⁴ Full-size or competition-size field hockey, football, lacrosse, soccer, etc.

Note: This Needs Assessment is limited in that it does not include an analysis of needs or demand for indoor sports, recreation, or leisure activities (e.g. basketball, wrestling, swimming, ice hockey, dance, gymnastics, aerobics, martial arts, etc.) nor outdoor recreation that is traditionally provided exclusively through the schools (e.g. cheerleading, track and field). Also, because there is no readily available data regarding participation rates in less organized sports or outdoor activities in Killingworth (such as skateboarding, in-line skating, tennis, volleyball, handball, hiking/jogging, bicycling, cross-country skiing, etc.), this report is not able to address the needs or facility demands for these sports or outdoor activities.

The specific tasks of conducting this Needs Assessment are as follows:

Task 1 –Inventory of Existing and Proposed Facilities

This inventory identifies existing and proposed outdoor sports facilities available to Killingworth residents. The inventory includes outdoor sports facilities and programs offered by the town's recreation department (H-K Regional Recreation Department), the Haddam Killingworth Regional School District, and other public, quasi-public, or non-profit organizations in the community. The principal purpose of this inventory is to allow for demand projections (see Task 3) to be compared to the available resources.

For existing and proposed facilities that are only available to town residents on a limited basis, CHA identified the percentage of time that they are available and, therefore, the degree to which they can satisfy the town's growing needs for outdoor recreation.

The inventory also identifies the individual agencies that provide outdoor sports services to the community, including:

- Haddam-Killingworth Recreation Department
- Haddam-Killingworth Youth Soccer League
- Haddam-Killingworth Youth Soccer Club
- Killingworth Youth League (Baseball/Softball)
- Tri-Town Football
- Lacrosse Club (Clinton and Killingworth)

CHA staff interviewed officials of the various leagues to determine the ages, gender and number of youths served by their organization, the nature of the activities, the timing and duration of the sport practice and game seasons, and the facilities that the group uses or requires in the course of its practices and games. The interviews also attempted to elicit any unmet needs or other concerns that the sports leagues had relative to resources and sports facilities. The information obtained in the course of these interviews was essential in the Needs Assessment section of this report (see Task 3).

A summary of town-owned or operated outdoor sports facilities, as well as Regional School District 17 outdoor sports facilities is provided in Appendix A.

Table 1.1 provides a listing of recreation facilities for two scenarios: 1) facilities as they exist today; and, 2) existing facilities plus facilities that will be available upon the

planned construction of the KRC, and facilities that will be constructed under the approved construction of a new regional Middle School.

The line titled "Total after factoring limited use of certain facilities" applies reduction factors to recognize that not all facilities are available for use by Killingworth residents at all times. For example, the recreation facilities at the regional Middle and High Schools are utilized by residents of another town (the youth and adult recreation programs offered by Haddam) as well as by the sports teams and other athletic or recreation programs offered by Regional School District 17. Consequently, they are available only for limited use by residents of Killingworth and by the private, non-profit leagues that provide programs for the town's youth. We have therefore determined that a factor of 0.15 should be applied to the outdoor sports fields and tennis courts in recognition of this scheduling reality.

The figures in Table 1.1 are utilized in subsequent analyses to determine if the town is currently experiencing any deficiencies in recreation facilities.

Needs Assessment for Outdoor Sports Facilities, Killingworth, CT

Table 1.1 - Inventory of Existing and Proposed Outdoor Sports Facilities

	Baseball Field (90' Baseline)	Baseball Field (60' Baseline)	Softball Field (60' Baseline)	Instructional Baseball/Softball (40 to 45' Baseline)	Practice or Half-Size Multi-Purpose Field (Field Hockey, Football, Lacrosse, Soccer)	Full-Size or Competition Multi-Purpose Field (Field Hockey, Football, Lacrosse, Soccer)	Tennis Courts
Town of Killingworth Facilities							
Sheldon Park	1	1	0	0	1	1	0
Rocco Reale Field	0	1	0	0	0	0	0
Killingworth Elementary School	0	0	0	2	1	0	0
Total Existing Town Fields	1	2	0	2	2	1	0
Proposed Killingworth Recreation Complex (Bosco)	0	3	1	1	2	3	3
Total After Proposed Park	1	5	1	3	4	4	3
Haddam-Killingworth Regional School District 17 (Shared Facilities)							
H-K Regional High School	1	0	2	0	0.5	2	8
Proposed H-K Middle School (revised plan)	1	0	1	0	1	0	0
Total After Proposed H-K M.S.	2	0	3	0	1.5	2	8
Combined Town and Regional Facilities							
Total Existing (Town and Regional)	2.0	2.0	2.0	2.0	2.5	3.0	8.0
Total Existing After Factoring Limited Use of Certain Facilities*	0.7	1.5	0.3	2.0	1.6	0.8	1.2
Total Proposed (Town and Regional)	1.0	3.0	2.0	1.0	3.0	3.0	3.0
Total Proposed After Factoring Limited Use of Certain Facilities*	0.2	3.0	1.2	1.0	2.2	3.0	3.0
Total Existing & Proposed After Factoring Limited Use of Certain Facilities*	0.8	4.5	1.5	3.0	3.7	3.8	4.2

Notes:

1. The reduced quantities shown in the rows titled "Total after factoring limited use of certain facilities" reflect the fact that certain outdoor sports facilities are not available 100% of the time or for the exclusive use of the Town of Killingworth youth or recreation programs. These limits on availability were determined as follows:

a.) a multi-use sports field that is superimposed over the outfield of a softball or baseball field is counted as 0.5 (1/2 field) since it has limited use, especially during the spring/summer sports seasons. Similarly, the softball or baseball field whose outfield is used as part of a multi-use sports field is also only counted at 0.5. These fields are identified by shaded boxes.

b.) the sports fields and outdoor sports courts at the H-K Regional High School and proposed Middle School are counted as only 0.15 (15%) to factor the utilization of these facilities by another town (youth and adult programs) and by the school's sports programs and, consequently, their limited availability for Killingworth youth leagues and other Killingworth sports programs.

Task 2 - Population Analysis

A population analysis was conducted to identify the various users of outdoor sports facilities in Killingworth. This population analysis was developed from publicly available population statistics including: the U.S. Census Bureau (Census 2000), the regional board of education, and data from the State of Connecticut.

The purpose of the population analysis is to make general determinations and projections about the current (2004) population (see column G of Table 2.1) and projected population for the year 2014 (see column K of Table 2.1). The population data is provided in specific cohorts that correlate with the principal users of outdoor sports facilities (e.g. age brackets that are active in organized sports).

This data was used in the development of the needs assessment by applying the participation rate currently experienced in sports to the projected population.

Following is Table 2.1 – “Population Projections”:

Table 2.1 - Population Projections

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Age Bracket	Total 2000 US Census Figures	Subtotal	Percent of Total Population (for indicated age bracket)	Correlating School Grade	2004 Student Enrollment Projection	Estimated 2004 Population	Subtotal	Percent of Total Population (for indicated age bracket)	% change (2000-2004)	Projected 2014 Population	Subtotal	% of Total Population (for indicated age bracket)	% Change (2004-2014)
Under 1 year	77				186	87				103			
1	103				186	87				103			
2	101				186	87				103			
3	93				186	87				103			
4	80			Pre-K	201	94				111			
		454	7.5%				444	6.83%	-2.2%		524	6.83%	
5	95			K	158	74				88			
6	112			1	205	96				114			
7	92			2	201	94				111			
8	102			3	186	87				103			
9	106			4	202	95				112			
10	89			5	225	106				125			
		596	9.9%				553	8.51%	-7.2%		653	8.51%	
11	106			6	206	97				114			
12	96			7	180	85				100			
13	78			8	222	104				123			
		280	4.7%				286	4.40%	2.1%		337	4.40%	
14	68			9	171	80				95			
15	76			10	152	71				84			
16	76			11	166	78				92			
17	82			12	123	58				68			
		302	5.0%				288	4.42%	-4.8%		339	4.42%	
18	58					65				77			
19	24					27				32			
20	31					35				41			
21	22					25				29			
		135	2.2%				152	2.33%	12.4%		179	2.33%	
22 to 24	82					92				109			
25 to 29	168					189				223			
30 to 34	418					470				554			
		668	11.1%				751	11.55%	12.4%		886	11.55%	
35 to 39	594					668				788			
40 to 44	590					663				783			
45 to 49	509					572				675			
		1693	28.1%				1,903	29.27%	12.4%		2,245	29.27%	
50 to 54	552					620				732			
55 to 59	392					441				520			
60 to 64	233					262				309			
		1177	19.6%				1,323	20.35%	12.4%		1,561	20.35%	
65 to 69	227					255				301			
70 to 74	179					201				237			
75 to 79	134					151				178			
		540	9.0%				607	9.34%	12.4%		716	9.34%	
80 to 84	108					121				143			
85+	65					73				86			
		173	2.9%				194	2.99%	12.4%		229	2.99%	
	6018	6018				6,501	6,501		8.0%	7,671	7,671		18.0%

Notes and Assumptions:

1) Source of 2004 Data for Grades K-12: Region 17 Public Schools-Abbreviated Enrollment Projection Update dated 12/2002; Prepared by Bothwell Consulting Associates (Killingworth portion of Bothwell enrollment data extrapolated by applying average 0.47 multiplier since Killingworth students comprise 47% of total Region 17 school population); result is a 3.7% decrease in population for these age brackets.

2) Year 2004 population projections for ages 18 and above were derived by increasing the year 2000 US Census data by 12.4% (3.1%/year) which is consistent with the 3.1% per year increase projected for Killingworth's total population for the five year period of 1990 to 2000 as predicted by the CT Dept. of Health (Source website: www.state.ct.us/dph/OPPE/popest.htm).

3) Year 2014 population projections were derived by applying an increase of 18% (or 1.8%/year) onto the projected 2004 population for each bracket. This increase is similar to the increase of 17.7% projected by Dr. Peter M. Prowda of the State of CT Dept. of Education (per 11/28/01 letter to Region 17 Public Schools) for Region 17 Student enrollment for the ten year period of 2000 to 2010; but less than the 25% (2.5%/year) increase in Killingworth's total population during the ten year period of 1990 to 2000 per the US Census Bureau; and slightly higher than the 15.25% (3.1%/year) increase in Killingworth's total population during the five year period of 1990 to 2000 per the CT Dept. of Health (Source website: www.state.ct.us/dph/OPPE/popest.htm).

Task 3 –Needs Assessment

CHA utilized a modified Level of Service (LOS) approach to determine citizen demand for outdoor sports services. The LOS is an expression of the facilities needed to provide the level of active park and recreation services desired by the customers in a community. This modified approach focuses on the town's demand for outdoor sports and relies upon the rates of current participation in league sports.

Table 3.1 “Level of Service Analysis – Year 2004” and Table 3.2 “Level of Service Analysis – Year 2014” determine existing and future outdoor sports facilities demand based on current levels of participation.

A review and analysis of the data in these tables or LOS model confirms that the Town of Killingworth is currently experiencing deficiencies in all outdoor sports facilities analyzed by this model (see column “M” of Table 3.1). These deficiencies will be exacerbated as the population increases over the next ten years (see column “M” of Table 3.2). Further, Table 3.2 reveals that, even after the number of available fields is increased by virtue of the proposed construction of outdoor sports facilities at the Killingworth Recreation Complex (KRC) and the H-K Middle School, the citizen demand for baseball and softball facilities in the year 2014 will still not be met (see column “M” of Table 3.2).

Table 3.2 also shows that in the year 2014 there will be a surplus of approximately one multi-purpose sports field (field hockey, football, lacrosse and soccer) upon the construction of the proposed facilities at the KRC and H-K Middle (see column “O” of Table 3.2). A further evaluation of the number of multi-purpose fields needed for the various teams and age brackets offered by the town and regional youth leagues was conducted (refer to table titled “Analysis of Number of Multi-Purpose Fields Needed per Team” in Appendix B). This analysis reveals that the one field surplus is attributable to the projected demand of youth in the younger age brackets (i.e. principally children in grades K- 3) that play soccer. The youth in these age brackets do not require full-size fields. Therefore, the surplus of one multi-purpose field projected in 2014 is relatively insignificant since it represents a half-size sports field or small practice field.

Needs Assessment for Outdoor Sports Facilities
Killingworth, CT

Following is a column by column explanation of data provided in Table 3.1, “Level of Service Analysis – Year 2004” and Table 3.2, “Level of Service Analysis – Year 2014”:

Column Title	Explanatory Notes
Sport	These are the sports in popular demand for which the recreation department currently provides facilities for, or hopes to soon provide facilities for.
User Group	The sub-categories of sports that are offered to specific age groups.
Age Bracket	The age brackets that roughly correlate with the “User Group” column.
School Grade Bracket	The school grade range that roughly correlates with the “Age Bracket” column; provided for comparison and analysis.
Current (2004) Sample Size (Table 3.1)	The total approximate number of people in the Town of Killingworth within the “Age Bracket” indicated and of the gender indicated.
or, Projected (2014) Sample Size (Table 3.2)	For the 2004 table this estimated population break-down was derived from a combination of demographic data obtained from the school system (for ages 21 and below) and extrapolated from the 2000 U.S. census (for ages 22 and above). Refer to Sec. 3.1 of this report for more information. For the 2014 table this estimated population breakdown was derived by applying an 18% growth rate to the estimated 2004 population. The 18% growth rate is based on a combination of sources (see note 3 of Table 2.1)
Current Participation Levels	The total number of participants that the Recreation Department or the private sports league providers experienced in 2004.
Participation Rate	The product of the “Current sample size”, and the “Participation Rate”. This number represents the total approximate number of people in town that would participate in that sport or activity.
Typical or Recommended Team Size	The number of people that can be suitably accommodated on a team.
No. of Teams Needed to Meet Demand	The result of the “Current or Projected Participants” divided by the “Typical or Recommended Team Size”.
No. of Recommended Teams per Field	This is a somewhat subjective number since it is a determination of how many teams can be accommodated within a particular facility. It is subjective because there are many variables to the determination such as: a) flexibility in scheduling; b) optimal hours of practice and number of games to develop player proficiency; c) overuse of fields which could result in damage to turf; d) placing undue demands on coaching staff and league organizers, etc. CHA relied upon the combined judgment of the H-K Recreation Department and league organizers to assign numbers to this column.
No. of Fields Required to Meet Demand	The result of the “No. of Teams Needed to Meet Demand”, divided by the “No. of Recommended Teams per Field”. This is an important number as it represents the recreation facilities demand for the year analyzed.
No. of Fields in Current or Future Supply	The number of facilities currently existing in the Town of Killingworth for this particular sport or activity. For the 2004, this number is derived from the inventory discussed and reported in the Supply Analysis chapter of this report, <u>after</u> factoring limited use of certain facilities.
Field Surplus or (Deficit)	The surplus or (deficit) of a category of sports field is derived by subtracting the number of fields required to meet demand, from the number of fields in current or future supply.

<Insert Table 3.1>

<Insert Table 3.2>

Appendix A

Inventory of Outdoor Sports Facilities

Appendix A

Inventory of Outdoor Sports Facilities (Town and Region 17 School District)

January 21, 2004

Haddam-Killingworth Regional High School / Middle School (Region 17 School District)

2 full-size fields, 1 baseball field, 2 softball/little league fields, 1 multi-purpose practice field
Maintained by Haddam-Killingworth Regional School System

1. Track & Field

- Full-size field
 - Field condition: fair to poor
 - Due to natural grass grow-in period on the football field, the field within the track has been overused for the last two years.
 - No irrigation
- Goal posts
- Scoreboard
- Bleachers
 - 5 rows, 60' long
 - Handicapped accessible
- Storage garage

2. Football Field

- Full-size field
 - Field condition: good
 - Due to natural grass grow-in period, the football field had not been available for much use over the last two years.
 - No irrigation
- Goal posts
 - Large netting behind far goal post
- Scoreboard
- Bleachers
 - Three sets (two on home side, one on away side)
 - Each set of bleachers is 5 rows and approximately 60' long
 - Handicapped accessible
- Press box between the two sets of home bleachers
- Small concession hut

3. Baseball Field

- Full-size baseball field
 - Field condition: fair
 - No irrigation
- Backstop
- 8' outfield fence
- Field hockey field overlay

Needs Assessment for Outdoor Sports Facilities
Killingworth, CT

- Due to the permanent outfield fence, the overlay field hockey field consists of a portion of the baseball infield
 - Above grade dugouts
 - Scoreboard
 - Bleachers
 - Two sets (one on each side)
 - Each set of bleachers is 5 rows and approximately 36' long
 - Not handicapped accessible
 - Press box behind backstop
4. Softball Field A (beyond baseball field)
- Full-size softball field
 - Field condition: fair
 - No irrigation
 - Backstop
 - 8' outfield fence
 - Little League use in spring
 - Team benches
5. Softball Field B (nearest entrance)
- Full-size softball field
 - Field condition: fair
 - No irrigation
 - Backstop
 - Outfield fence
 - Little League use in spring
 - Above grade dugouts
 - Bleachers
 - Two small sets
6. Multi-purpose practice field
- Not full-size
 - Field condition: fair
 - No irrigation
 - Somewhat available for community use
7. Tennis courts
- Eight courts
 - Two sets of four courts
 - Fully fenced

Needs Assessment for Outdoor Sports Facilities
Killingworth, CT

- Two small sets with three rows each

Killingworth Elementary School

1 small soccer field in rear, 2 small softball/little league fields in front
Playgrounds

1. Soccer Field
 - 75-yard soccer field
 - Field condition: poor
 - Field built over leaching field
 - No irrigation
2. Two Softball/Little League fields
 - Two small fields with small backstops
 - Field condition: poor
 - No irrigation

Proposed Haddam-Killingworth Regional Middle School

3 multi-purpose fields, 2 softball/little league fields

1. Three Multi-Purpose Fields
 - Field condition: unknown
2. Two Softball/Little League fields
 - Field condition: unknown

Note: Field condition information based upon user interviews in addition to visual inspection.

Sheldon Park

2 full-size softball/little league fields, 1 small softball field with backstop
Pond, picnic area, playground
Maintained by Killingworth Parks & Recreation Department

During the fall season, there are three soccer field overlays
(one 60-yard long, one 75-yard long, and one 100-yard long)

1. Softball/Little League Field A (nearest entrance)

- Full-size softball field
 - Field condition: fair
 - No irrigation
- Backstop
- Outfield fence for small portion of left field
- Above grade dugouts
- Small portable bleacher system

2. Softball/Little League Field B (back field)

- Full-size softball field
 - Field condition: fair
 - Field is set at lower elevation than surrounding area and appears as if drainage could be a problem
 - No irrigation
- Backstop
- Full outfield and sideline fencing
- Team benches
- Small portable bleacher system

3. Softball/Little League Field C (small field)

- Smaller-sized softball field (diamond is regulation, but outfield is small)
 - Field condition: fair to poor
 - No irrigation
- Backstop

Rocco Reale

1 full-size softball/little league fields
Maintained by Killingworth Parks & Recreation Department

1. Softball/Little League Field

- Full-size softball field
 - Field condition: good
 - Field slopes down to right field corner
 - Infield appears as if it collects surface water from area around backstop
 - No irrigation
- Backstop
- Full outfield and sideline fencing
- Above grade dugouts
- Bleachers

Appendix B

Analysis of Number of Multi-Purpose Fields Needed per Team

Needs Assessment for Outdoor Sports Facilities, Killingworth, CT

April 22, 2004

Analysis of Number of Multi-Purpose Field Needed per Team									
Sport	League	No. Teams	Full or 1/2 Field	No. of Practices/Week	No. of Games/Week*	Total Time Slots Needed per Week (practices plus games X field size X No. teams)	Total Time Slots Available per Field per Week**	Total Fields Needed	Average Number of Teams per Field
Football:	†	1	1.0	1	0.5	1.50			
Lacrosse:	(Not a determinant***)								
Field Hockey: *3	†	1	1.0	1	0.5	1.50			
Haddam-Killingworth Youth Soccer League (HKYSL):									
	Instructional	4	0.5	2	0.5	5.00			
	Division I G	6	0.5	2	0.5	7.50			
	Division I B	8	0.5	2	0.5	10.00			
	Division II G	4	1.0	2	0.5	10.00			
	Division II B	6	1.0	2	0.5	15.00			
	Division III G	2	1.0	2	0.5	5.00			
	Division III B	4	1.0	2	0.5	10.00			
H-K Youth Soccer Club (HKYSC):									
	U-10	6	1.0	2	0.5	15.00			
	U-12	1	1.0	2	0.5	2.50			
	U-14	1	1.0	3	0.5	3.50			
	U-16	1	1.0	4	0.5	4.50			
	U-19	1	1.0	5	0.5	5.50			
Adult Soccer									
	Men	1	1.0	0	1	1.00			
	Women	1	1.0	0	1	1.00			
		48				99	11	9.0	5.4

* 0.5 value is given for each game played since there are two teams per field during a game; or, in the case of travel soccer, half of the game are played out-of-town.

** One, 2 hour slot for each weekday practice (5:00 - 7:00 PM) and four, 2.5 hour game slots for each weekend day (all day Sat. and Sun.) = 13 slots. However, there is a need to "rest" a field at least 2 out of 7 days (on average), therefore, the recommended number of slots per field is reduced by two weekdays or 2 slots for a total of 11 slots/week/field.

*** Since fall is the most intensive season of use for multi-purpose fields due to youth soccer, field hockey and football; it is presumed that the spring use of these fields for lacrosse and spring soccer will not be a determining factor in the number of fields needed (i.e. if the town provides for the fall teams, the spring teams will have ample practice and playing fields even if one or more fields are used for T-Ball or instructional baseball/softball).

† Assumed number of practices and games/week = 6; assumed number of those practices and games that would occur in Killingworth if facilities were available = 1.5