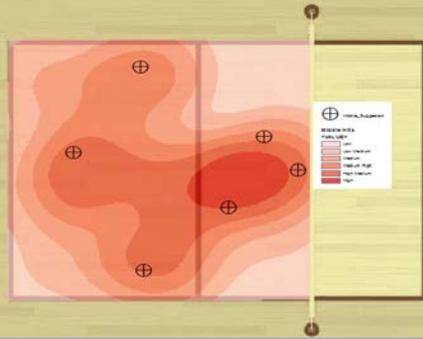
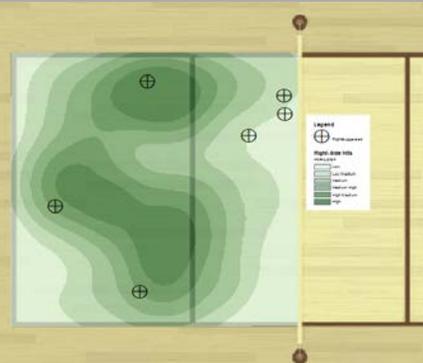


# Setting Up a Volleyball Defense

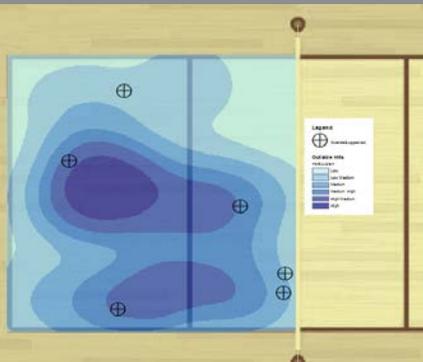
Middle Hits



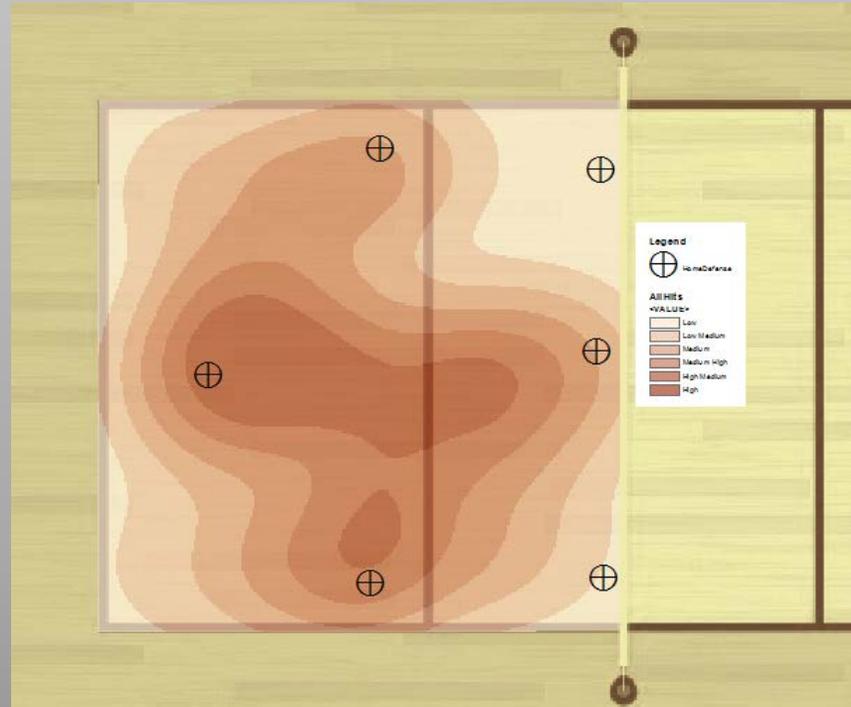
Right-Side Hits



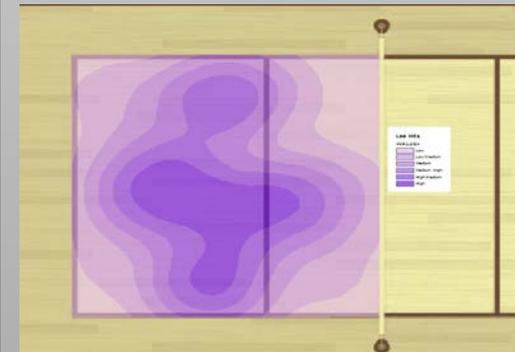
Outside Hits



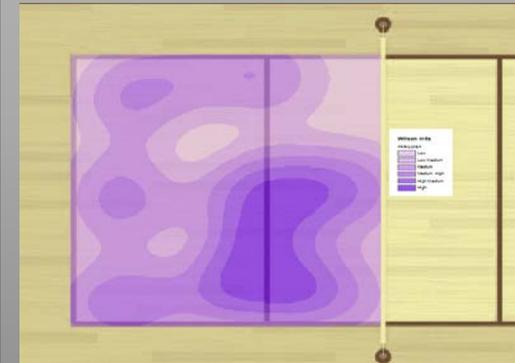
All Hits



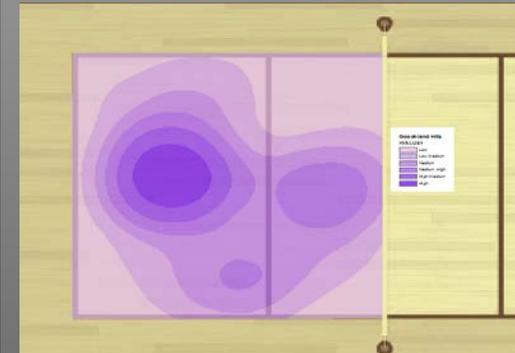
Lee Hits



Wilson Hits



Goochland Hits



**Purpose:** This past season Buffalo Gap played many teams in the area multiple times, and many of the match-ups were during crucial times in the season. The upcoming season for Buffalo Gap could be successful, but they will have to maintain a strong defense through the season because there will be different players on the team. In order to determine the new defense, the hits of three of the major opponents were analyzed.

**Solution:** Each of Gap's opponents plays differently utilizing different players. When the hits for each team are combined a clear suggestion of where the defense should be setting up against each of the three hitters. For all three hitters, it is suggested that the middle back player stays fairly deep and centrally located. Against a middle and right-side hitter the left back should play a step off the line and line up off the outside shoulder of the blocker. Against the outside hitter the left back should split the difference between the line and the center of the court so they are able to defend short attacks in the middle of the court. The right back, against a middle and right-side hitter, should play close to the line and two steps off of the ten-foot line. The right back against an outside hitter should play in the middle between the back line and the ten-foot line because the outside hitter swings with more power down the line at this player. The blockers are to single block in the middle, double block taking away cross court against a right-side, and double block taking away the line against an outside hitter. For the outside hitters the front row player that is not blocking should cover the tip off the side of blockers. For the middle, the other two players should cover the tip to the side of the block and right behind the block.

**Analysis:** The kernel density maps displayed the hitting tendencies for each of the teams. Lee utilizes their middle hitters the most therefore many of their hits are deep and in the corners. Wilson uses their outside hitters the most, so they most frequently hit on the lines. Goochland used all of their hitters equally as well as implementing backrow attacks because of this they frequently hit in the middle of the court. The analysis shows that middle hitters are most likely to hit in zones 1, 6, and 3. Right-side hitters are likely to hit the outside lines of the court or zones 1 and 5. Lastly, outside hitters mostly hit the ball down the line and in the middle of the court. There is a shortage of hits in zone 4 on the court which is surprising because the ball is tipped frequently.