Introduction to ggplot2 Themes

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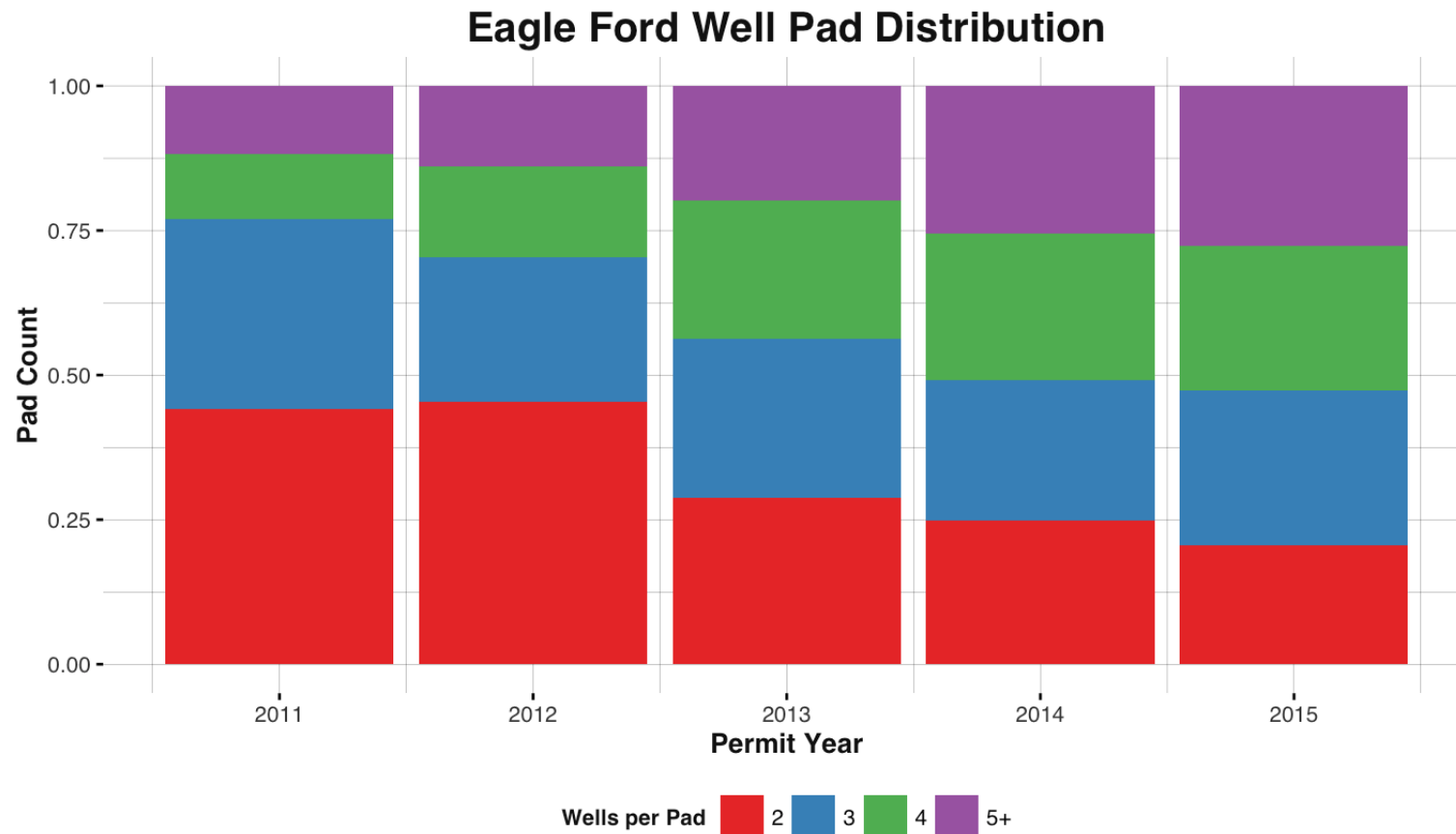
April 5, 2016

"There is no accounting for taste"

Default Theme

Eagle Ford Well Pad Distribution

Custom Theme
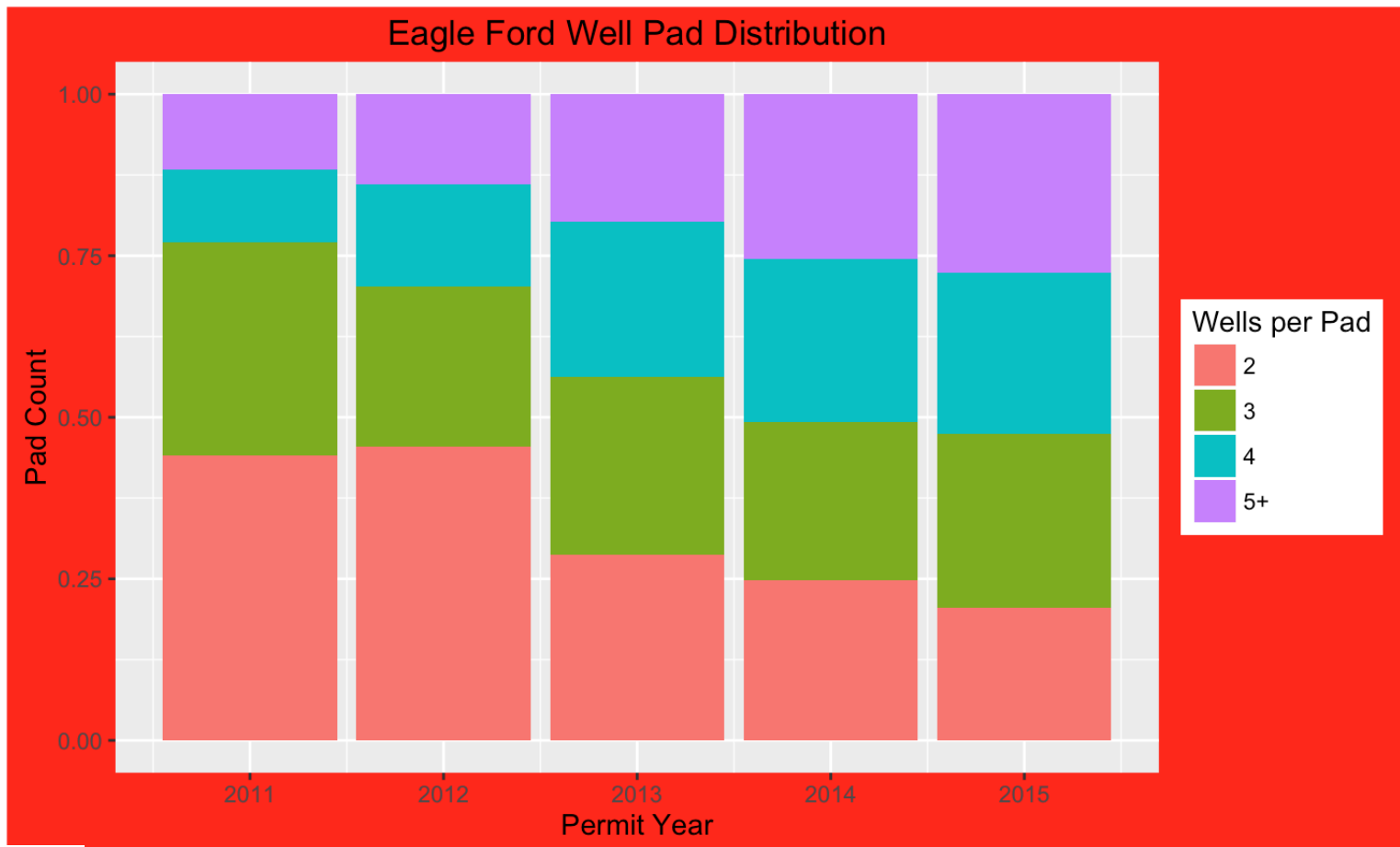

Eagle Ford Well Pad Distribution
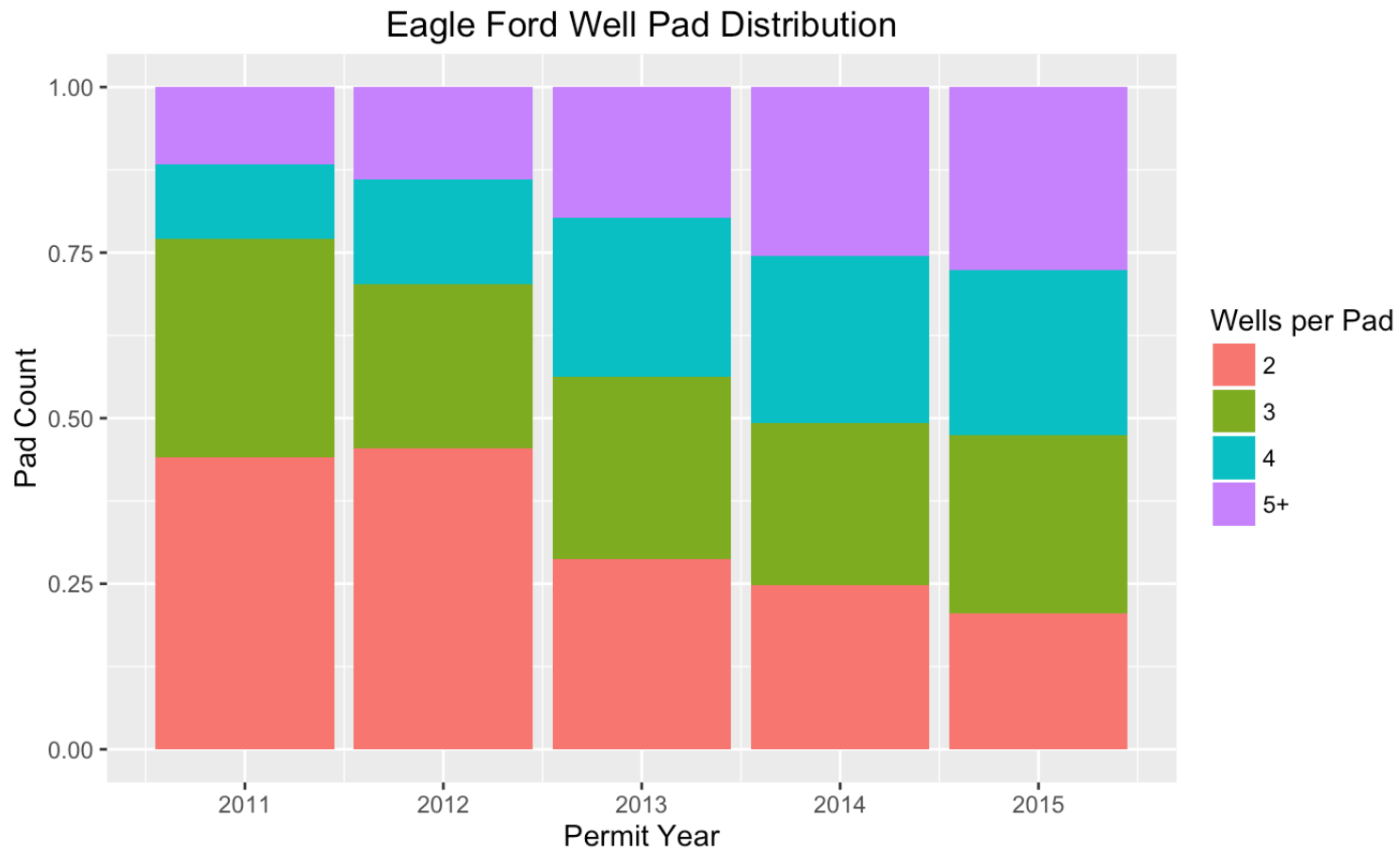
ggplot Structure

- Plot - entire plot

- Panel - chart area

- Legend

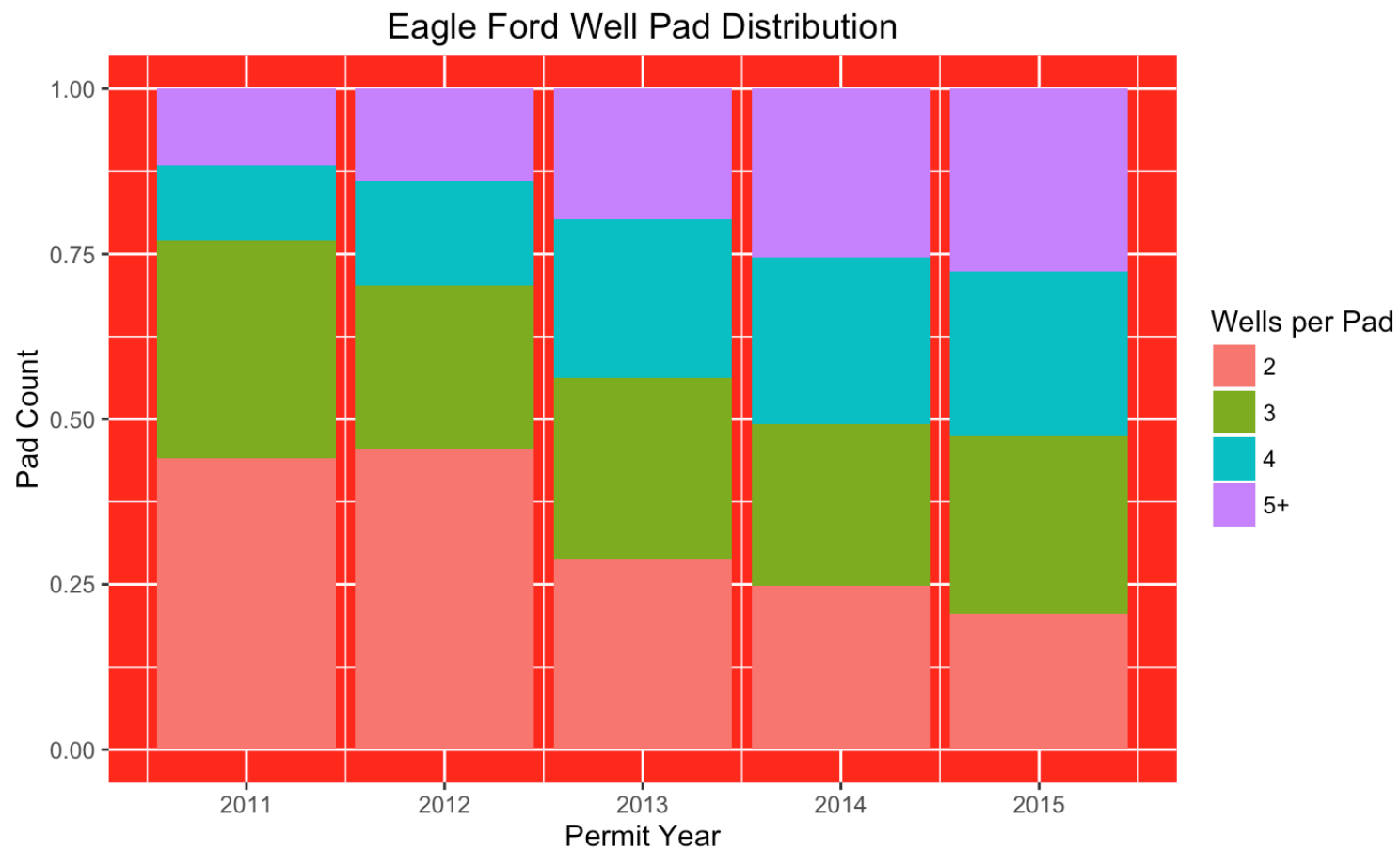- Axis

- Strip - facets

Plot

```
p + theme(plot.background = element_rect(fill = "red"))
```
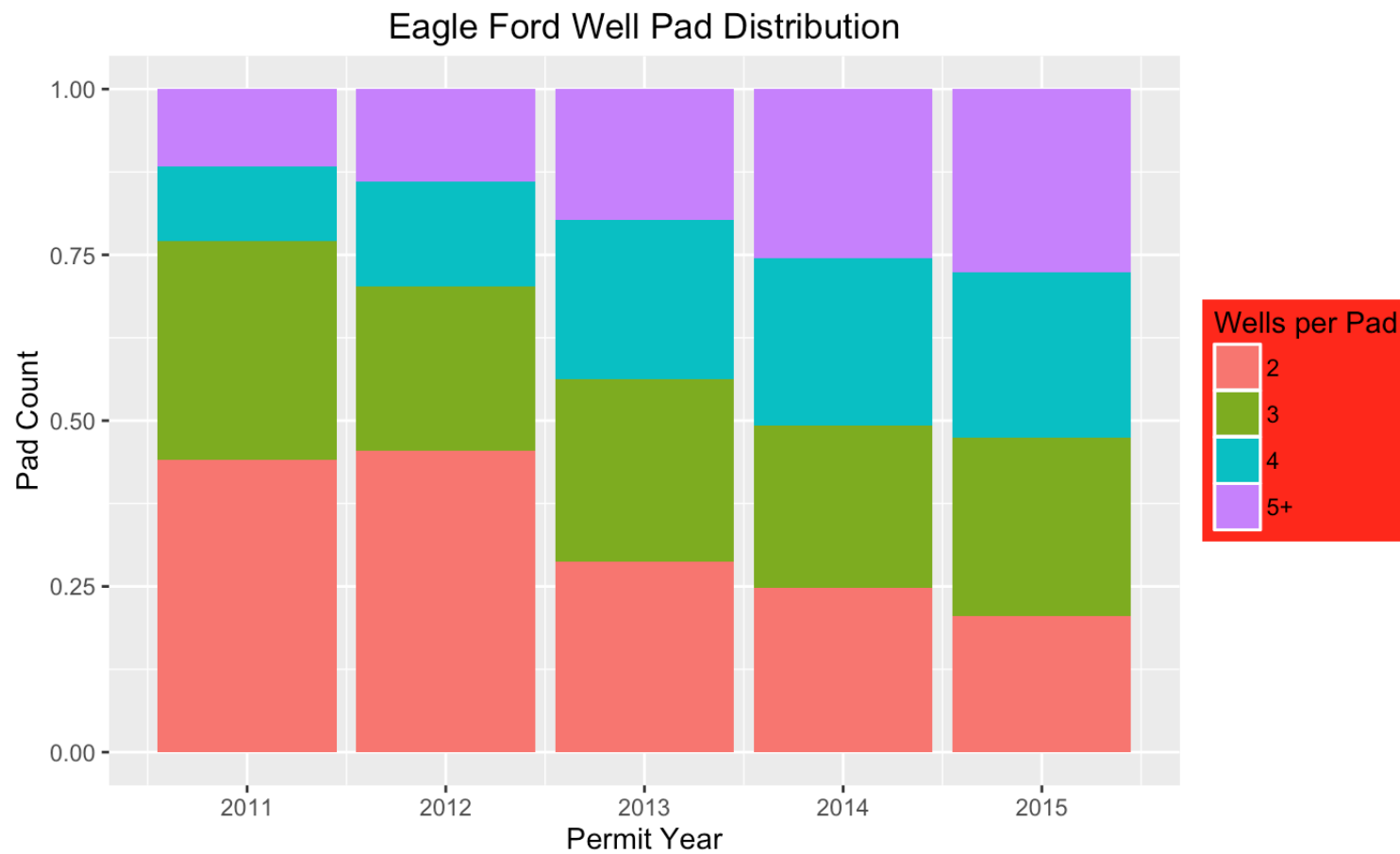
Panel

```
p + theme(panel.background = element_rect(fill = "red"))
```

Legend

```
p + theme(legend.background = element_rect(fill = "red"))
```

Theme Basics

- `element_text()` - style text objects (titles, labels, etc.)

```
plot.title      = element_text(face="bold", color="red", size=15)
```

- `element_line()` - style line objects (axes, grid lines, ticks, etc.)

```
axis.ticks      = element_line(colour = "black")
```

- `element_rect()` - style rect objects (backgrounds, borders)

```
panel.border    = element_rect(fill = NA, colour = "white")
```

Theme Basics (Continued)

- `unit()` - change magnitude (margins)

```
panel.margin      = unit(0.0, "lines")
```

To set something to nothing use `element_blank()`. For example, no border:

```
panel.border     = element_blank()
```

Implementing Your Own Theme

1. Create a user-defined function

2. Start with a base theme (`theme_bw`, `theme_gray`)

3. Add additional themes to override (modify) the styles

4. Add it to your plot with `+`

```r
# custom function
custom_theme <- function(base_size = 10, base_family = "Helvetica")
{
  # start with base theme
  theme_bw(base_size = base_size, base_family = base_family) +
  theme(
    plot.title = element_text(face="bold", colour="red",
                              size=15, hjust=0.5, vjust=2)
  )
}
```

Making Your Own Theme (Continued)

```
# make title red
p + custom_theme() # or use theme_set()
```


Eagle Ford Well Pad Distribution
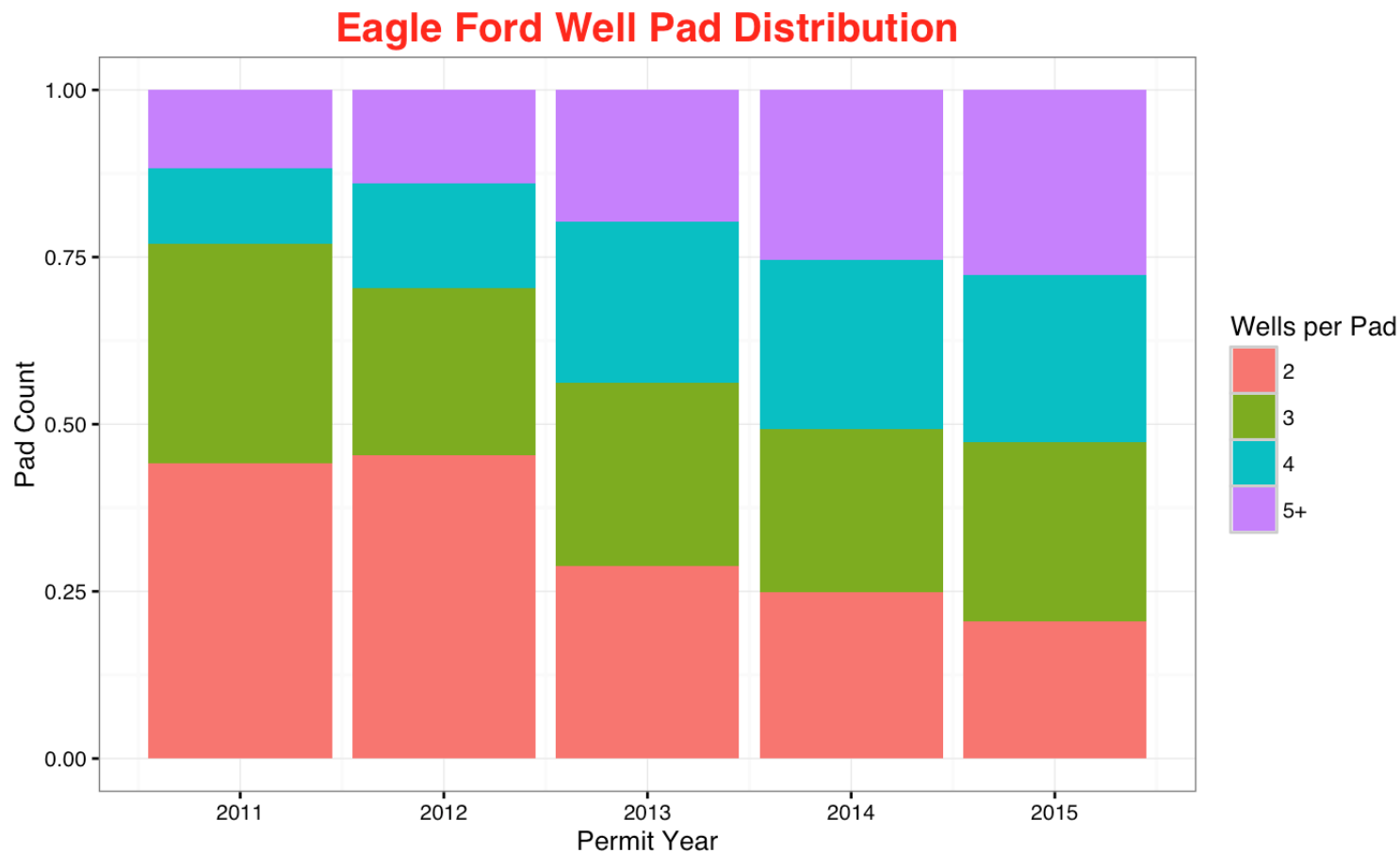
Other Themes, Add-Ins, & Comments

- **ggThemes** - CRAN Package of several popular themes (WSJ, Tableau, Excel, etc.)

- **ggThemeAssist** - RStudio Add-in (first commit March 2016)

Comments

1. Be careful of older examples - several items deprecated/removed

2. Things are quickly evolving making many "hacks" unnecessary

Helpful Links

Theme Vignettes

http://docs.ggplot2.org/dev/vignettes/themes.html

ggThemes

https://cran.r-project.org/web/packages/ggthemes/vignettes/ggthemes.html

ggThemeAssist

https://github.com/calligross/ggthemeassist