```
import matplotlib.pyplot as plt
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib as mpl
```

```
/usr/local/lib/python3.6/dist-packages/statsmodels/tools/_testing.py:19: FutureWarning: pandas.util.testing is deprecat
  import pandas.util.testing as tm
```

```
from google.colab import drive
drive.mount('/content/drive')
```

```
Go to this URL in a browser: https://accounts.google.com/o/oauth2/auth?client_id=947318989803-6bn6qk8qdgf4n4g3pfee6491h

Enter your authorization code:
··········
Mounted at /content/drive
```

Pair Plot

Pair Plot is used for plotting pairwise relationships in a dataset.

```
# Recover default matplotlib settings
mpl.rcParams.update(mpl.rcParamsDefault)
%matplotlib inline
```

```
fish= pd.read_csv("/content/drive/My Drive/Python DataScience/Visualization/Seaborn/Dat
```

```
fish.head()
```

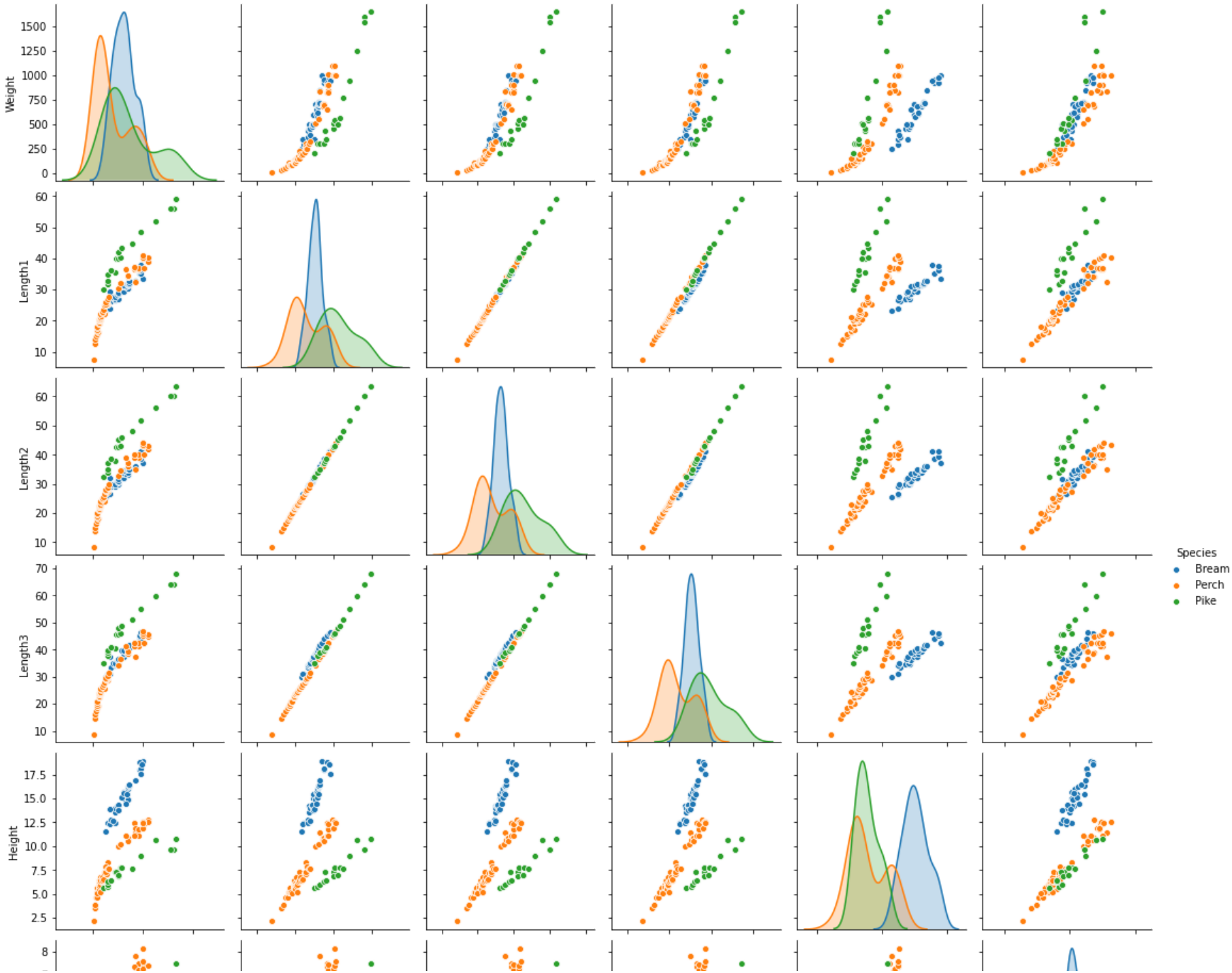
	Species	Weight	Length1	Length2	Length3	Height	Width
0	Bream	242.0	23.2	25.4	30.0	11.5200	4.0200
1	Bream	290.0	24.0	26.3	31.2	12.4800	4.3056
2	Bream	340.0	23.9	26.5	31.1	12.3778	4.6961
3	Bream	363.0	26.3	29.0	33.5	12.7300	4.4555
4	Bream	430.0	26.5	29.0	34.0	12.4440	5.1340

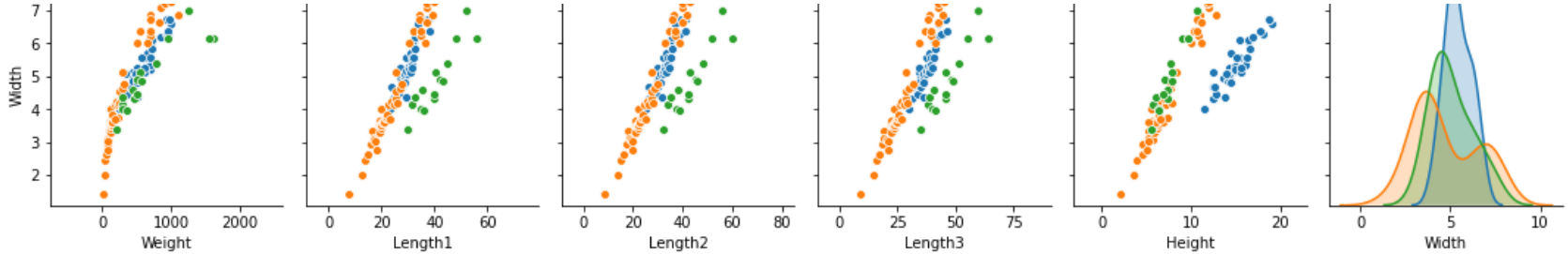
```
fish1 = fish[fish['Species'].isin(['Bream', 'Perch', 'Pike'])]
fish1.head()
```

	Species	Weight	Length1	Length2	Length3	Height	Width
0	Bream	242.0	23.2	25.4	30.0	11.5200	4.0200
1	Bream	290.0	24.0	26.3	31.2	12.4800	4.3056
2	Bream	340.0	23.9	26.5	31.1	12.3778	4.6961
3	Bream	363.0	26.3	29.0	33.5	12.7300	4.4555
4	Bream	430.0	26.5	29.0	34.0	12.4440	5.1340

```
# Draw scatterplots for joint relationships and histograms for univariate distributions
plt.figure(figsize=(11,9))
sns.pairplot(fish1,hue = 'Species')
plt.show()
```

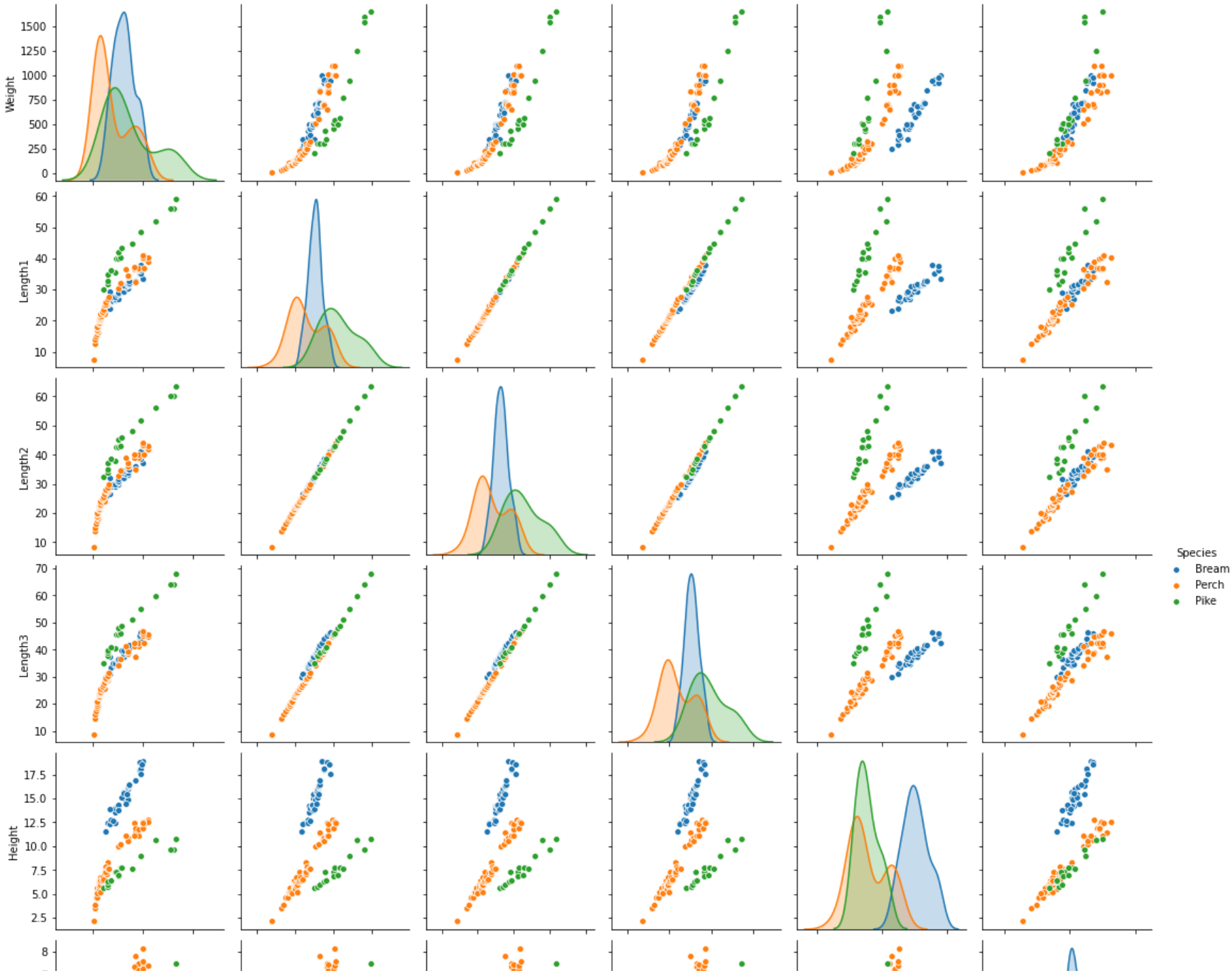
```
<Figure size 792x648 with 0 Axes>
```

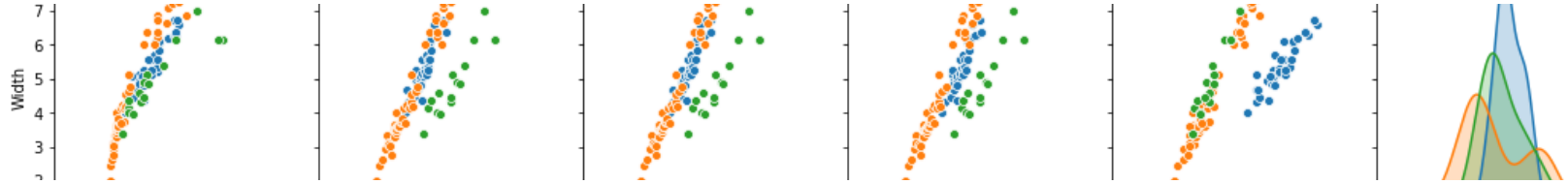





```
# Show groups with different colors using "hue"
plt.figure(figsize=(11,9))
sns.pairplot(fish1,hue = 'Species')
plt.show()
```

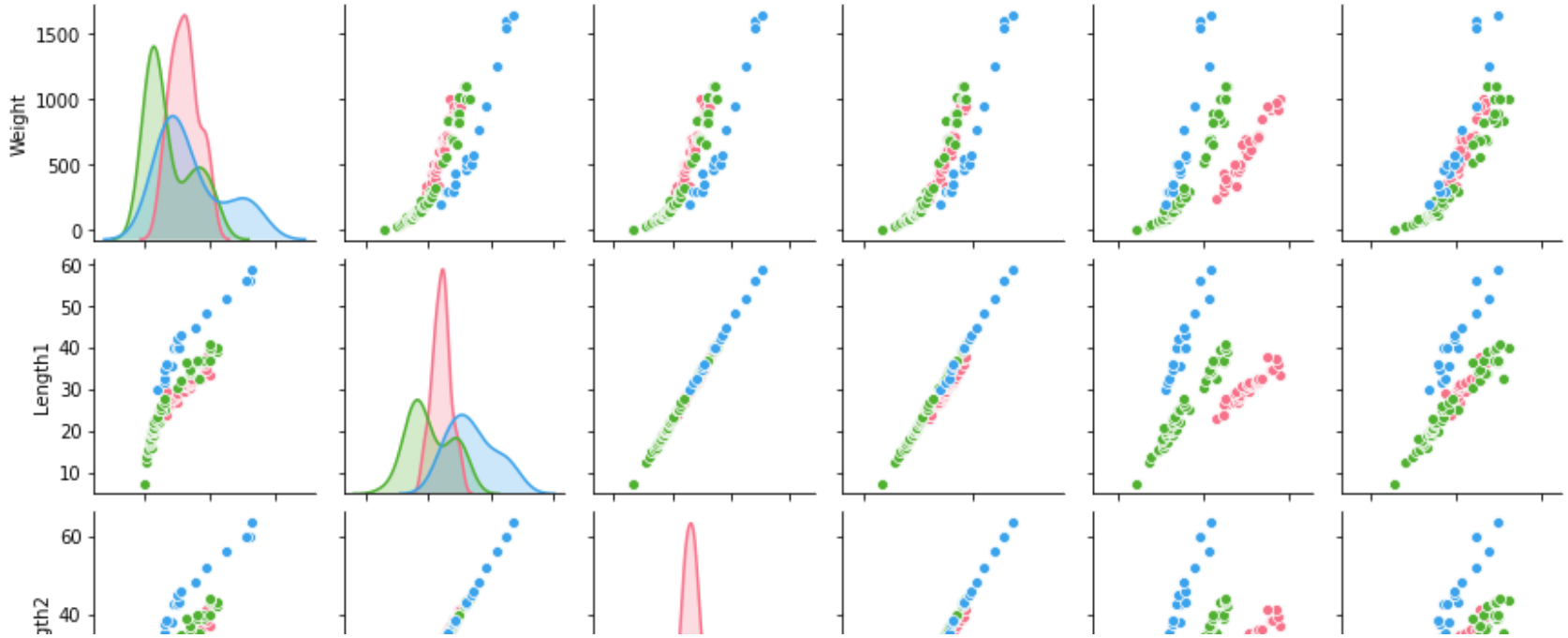
```
<Figure size 792x648 with 0 Axes>
```



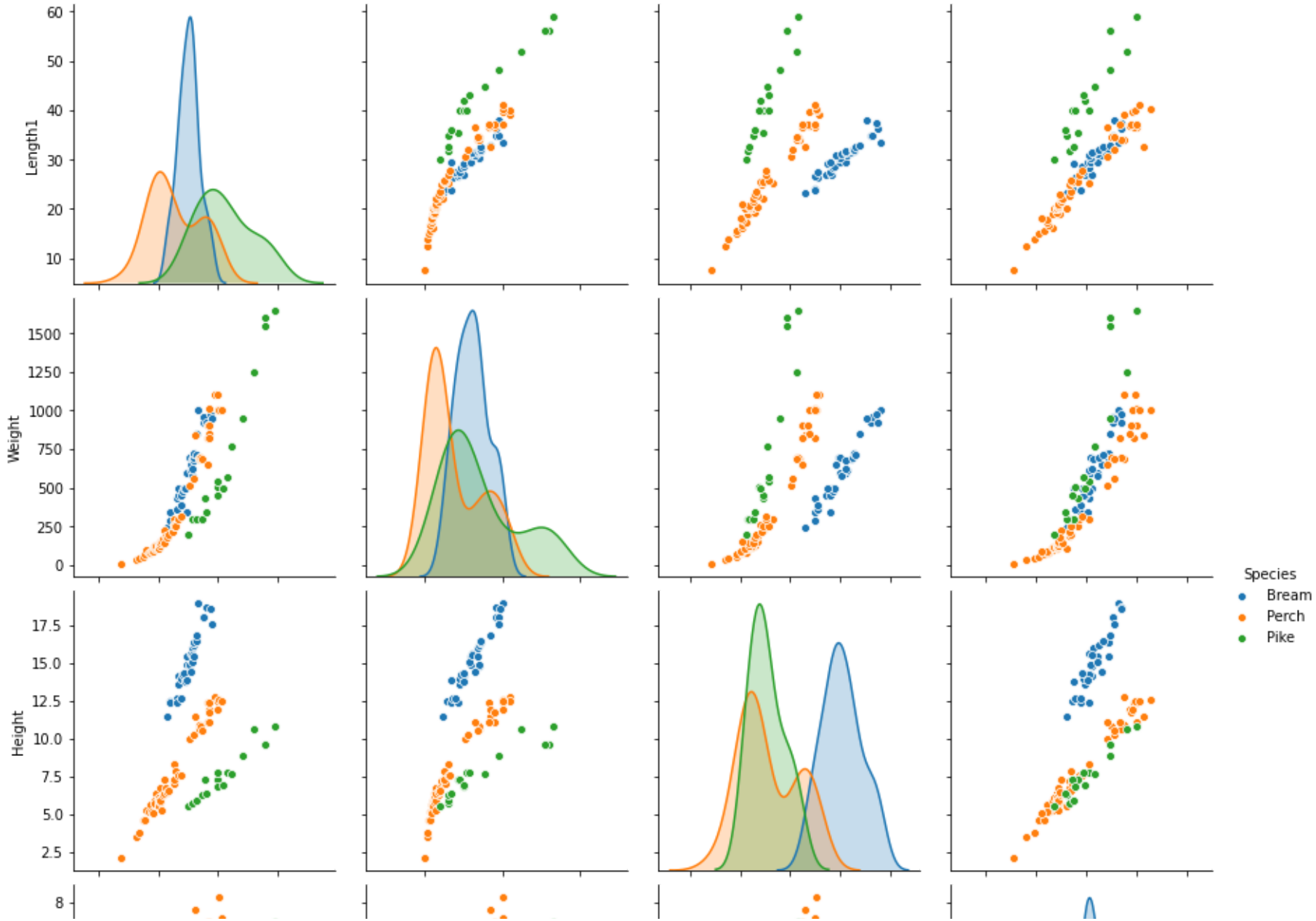



```
# Changing palettes
sns.pairplot(fish1,hue = 'Species',palette="husl",size=2)
plt.show()
```

```
/usr/local/lib/python3.6/dist-packages/seaborn/axisgrid.py:2071: UserWarning: The `size` parameter has been renamed to
  warnings.warn(msg, UserWarning)
```

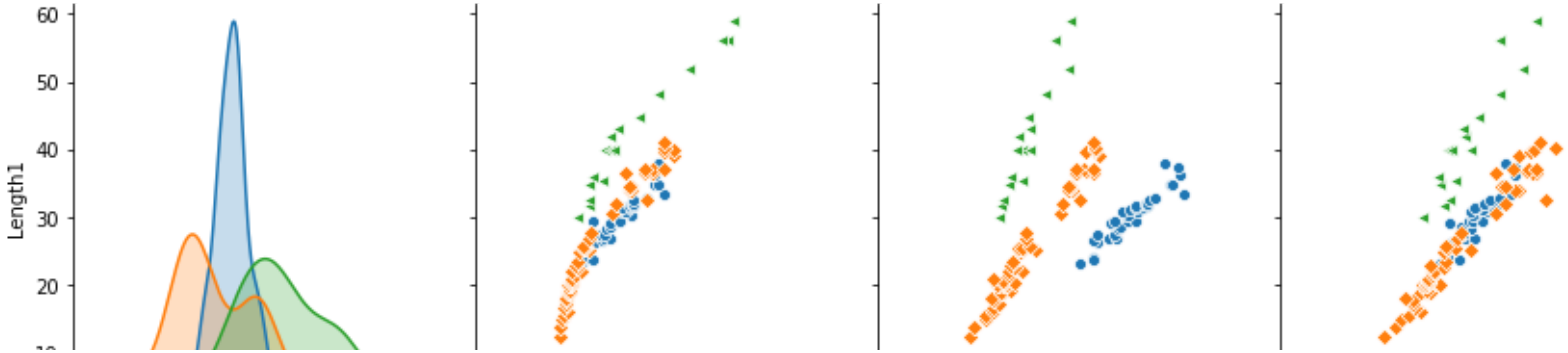



```
# Plot a subset of variables
sns.pairplot(fish1,hue = 'Species',vars=["Length1", "Weight" , "Height" , "Width"] , he
plt.show()
```

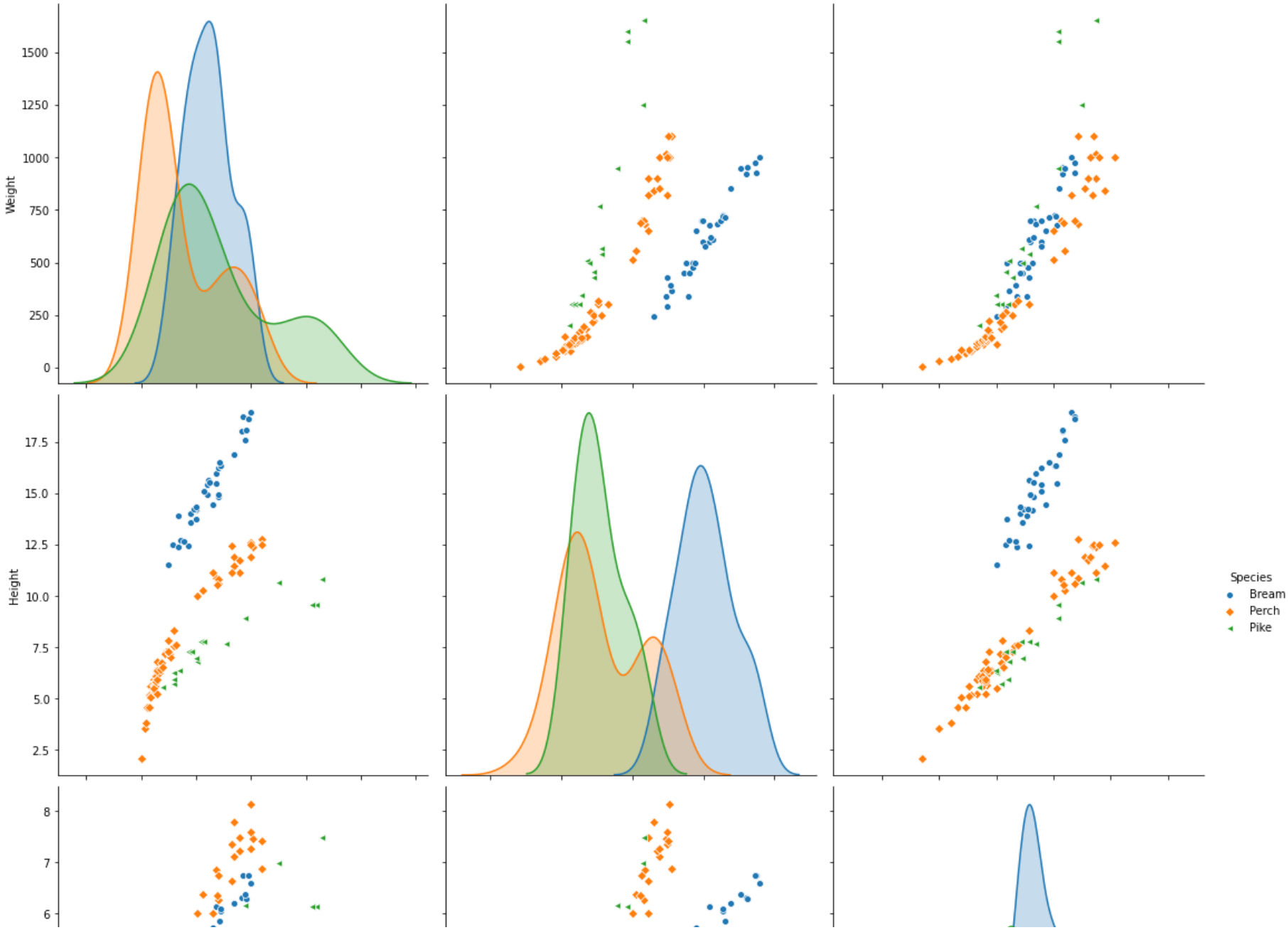



```
# Use different markers for each level of the hue variable
sns.pairplot(fish1,hue = 'Species',vars=["Length1", "Weight" , "Height" , "Width"] ,
             markers= ['o' , 'D' , '<'] , height=3, aspect=1)
plt.show()
```

```
plt.show()
```

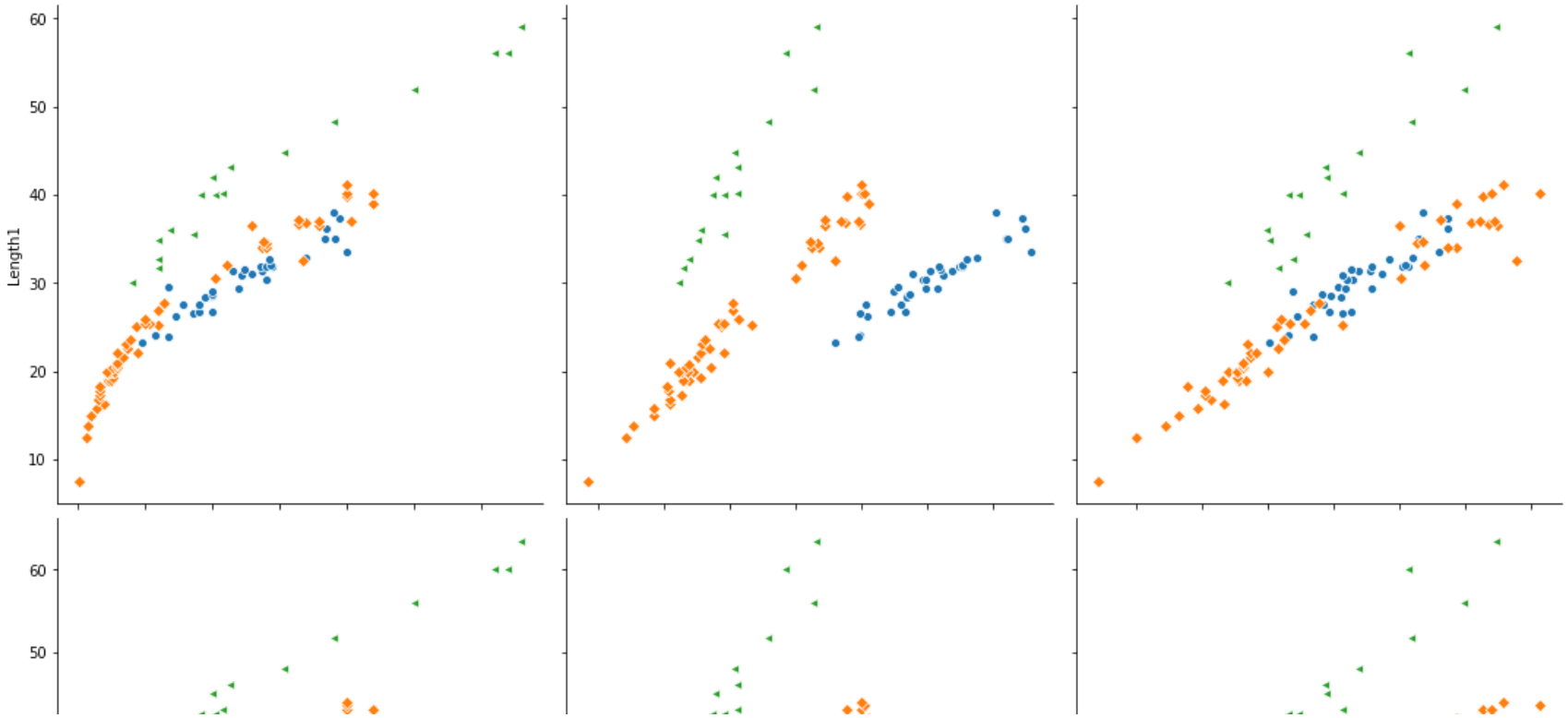



```
sns.pairplot(fish1,hue = 'Species',vars=["Weight" , "Height" , "Width"] ,
             markers= ['o' , 'D' , '<'] , height=5, aspect=1)
plt.show()
```

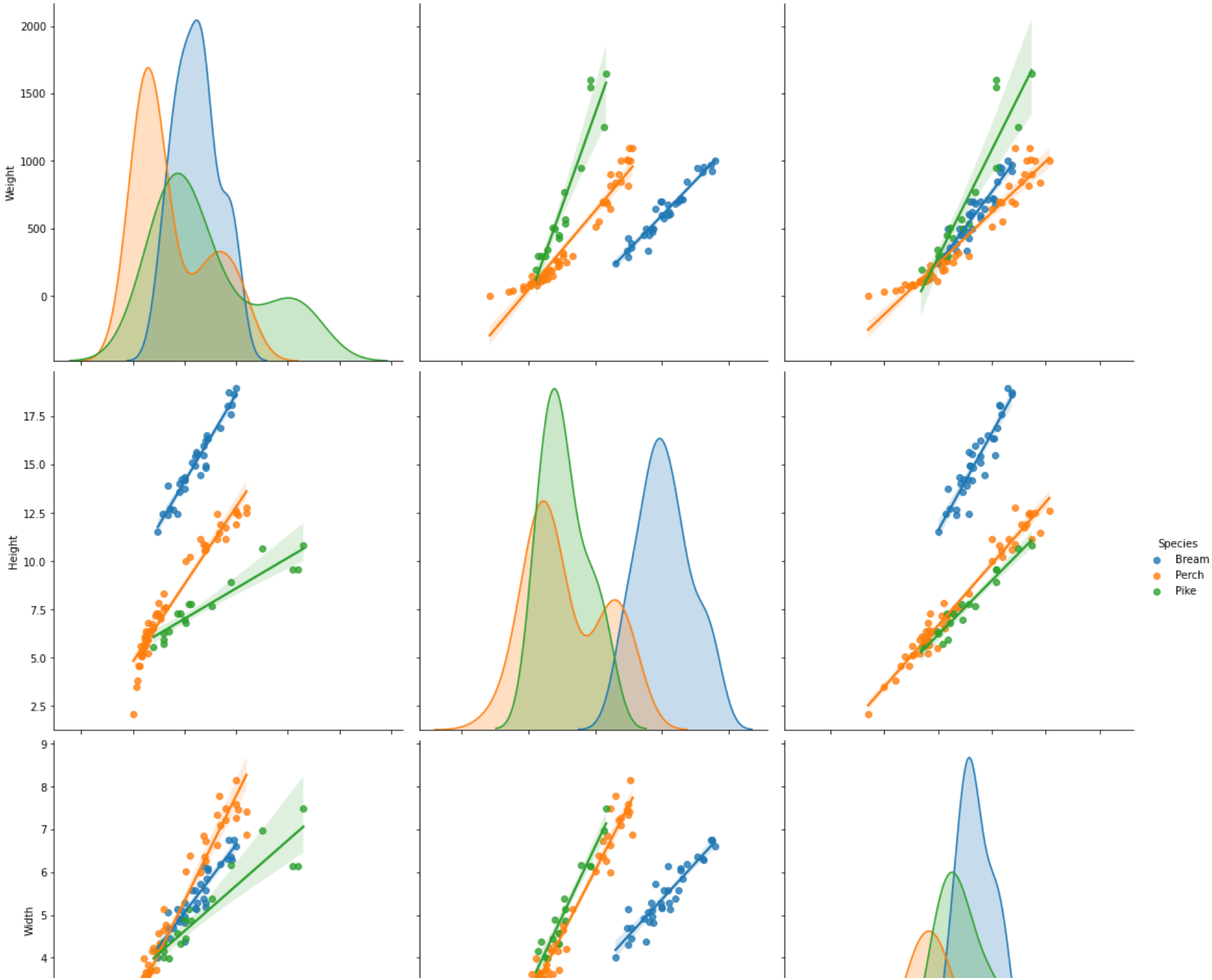


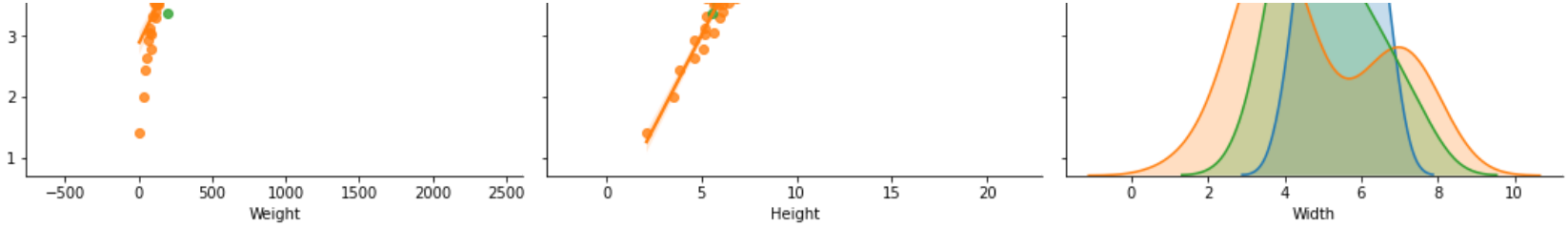

```
sns.pairplot(fish1,hue = 'Species',x_vars=["Weight" , "Height" , "Width"] , y_vars=["Le
             markers= ['o' , 'D' , '<'] , height=5, aspect=1)
plt.show()
```

```
plt.show()
```

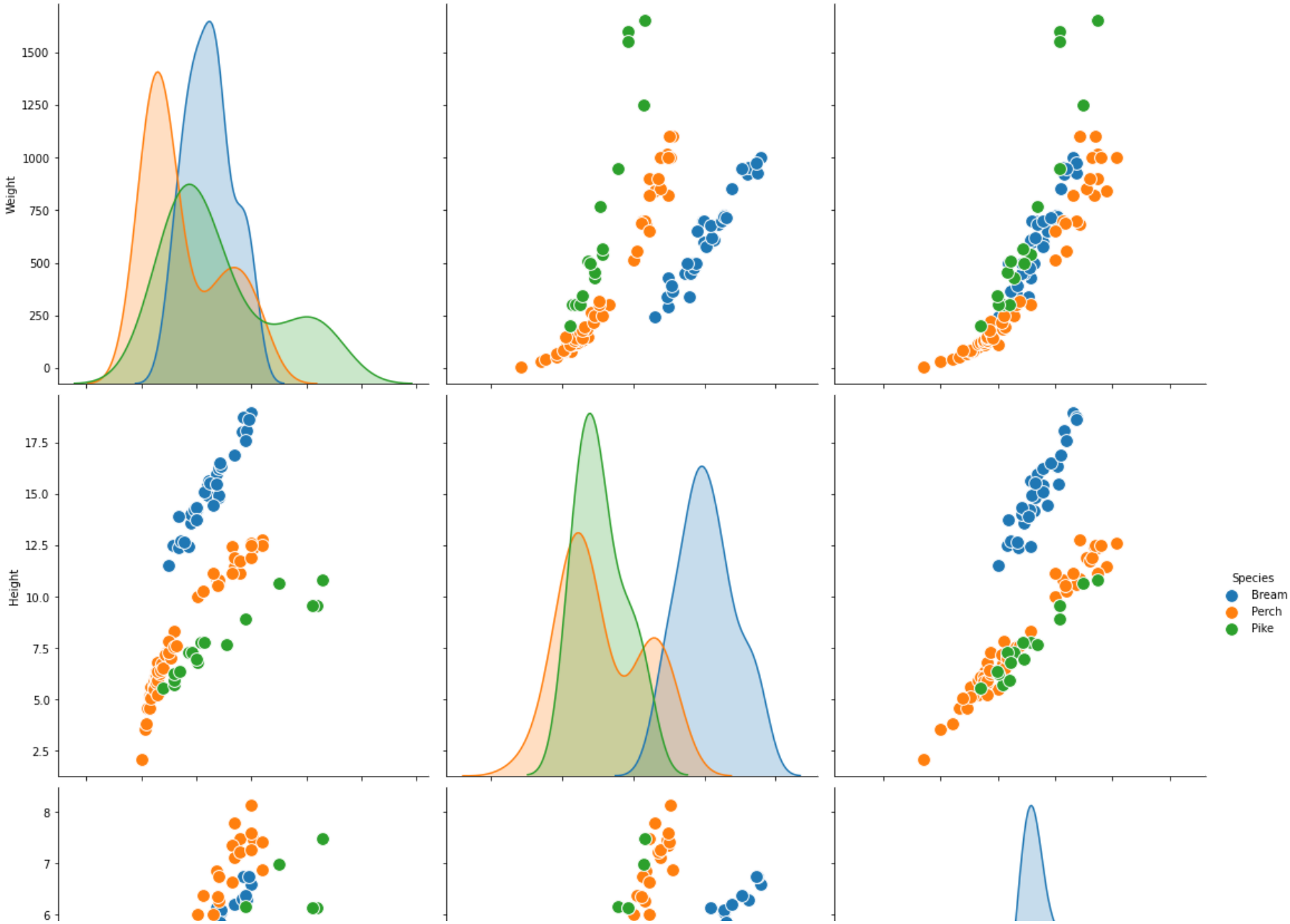



```
# Fit linear regression models to the scatter plots
sns.pairplot(fish1,hue = 'Species',vars=["Weight" , "Height" , "Width"] , kind="reg",
             height=5, aspect=1)
plt.show()
```


Weight
Height
Width
Species
Bream
Perch
Pike




```
# Changing size of circles in scatter plots using -> plot_kws=dict(s=140)
sns.pairplot(fish1,hue = 'Species',vars=["Weight" , "Height" , "Width"] , plot_kws=dict
             height=5, aspect=1)
plt.show()
```




```
sns.pairplot(fish1,hue = 'Species',vars=["Weight" , "Height" , "Width"] , plot_kws=dict
             height=5, aspect=1)
plt.show()
```

```
sns.pairplot(fish1,hue = 'Species',x_vars=["Weight" , "Height"] ,
             y_vars=["Weight" , "Height"] ,plot_kws=dict(s=140, linewidth=1,alpha= .6),
             height=5, aspect=1)
plt.show()
```