1. Creating One-Way Frequency Reports

```
/*part a*/
title1 "Categories of Reported Species";
proc freq data=pg1.np_species order=freq;
    tables Category / nocum;
run;

/*part b*/
ods graphics on;
ods noproctitle;
title1 "Categories of Reported Species";
title2 "in the Everglades";
proc freq data=pg1.np_species order=freq;
    tables Category / nocum plots=freqplot;
    where Species_ID like "EVER%" and
          Category ne "Vascular Plant";
run;
title;
```

2. Creating Two-Way Frequency Reports

What are the top three park types based on total frequency?

National Historic Site, National Monument, and National Park

```
/*part a, b*/
title1 'Park Types by Region';
proc freq data=pg1.np_codelookup order=freq;
    tables Type*Region / nocol;
    where Type not like '%Other%';
run;

/*part c*/
title1 'Selected Park Types by Region';
ods graphics on;
proc freq data=pg1.np_codelookup order=freq;
    tables Type*Region /  nocol crosslist
             plots=freqplot(groupby=row scale=grouppercent
                            orient=horizontal);
    where Type in ('National Historic Site', 'National Monument',
                   'National Park');
run;
title;
```

3. Creating a Customized Graph of a Two-Way Frequency Table

```
/*part a*/
title1 'Counts of Selected Park Types by Park Region';
ods graphics on;
proc freq data=pg1.np_codelookup order=freq;
    tables Type*Region / crosslist plots=freqplot(twoway=stacked
                         orient=horizontal);
    where Type in ('National Historic Site', 'National Monument',
                   'National Park');
run;

/*part b */
title1 'Counts of Selected Park Types by Park Region';
ods graphics on;
proc freq data=pg1.np_codelookup order=freq noprint;
    tables Type*Region / out=park_freq;
    where Type in ('National Historic Site', 'National Monument',
                   'National Park');
run;

/*part c*/
proc sgplot data=pg1.np_codelookup;
    where Type in ('National Historic Site', 'National Monument',
                   'National Park');
    hbar region / group=type;
    keylegend / opaque across=1 position=bottomright
                location=inside;
    xaxis grid;
run;

/*part d*/
proc sgplot data=pg1.np_codelookup;
    where Type in ('National Historic Site', 'National Monument',
                   'National Park');
    hbar region / group=type seglabel
                  fillattrs=(transparency=0.5) dataskin=crisp;
    keylegend / opaque across=1 position=bottomright
                location=inside;
    xaxis grid;
run;
title;
```

End of Solutions