Poster-Making Guidelines

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Goal of Posters

- Tell a story visually and concisely
- Present information that can stand on its own

Poster session at Society for Neuroscience
www.swarthmore.edu
Organization
Content

- Introduction
  - Cast of characters
  - What does the audience need to know to follow your story?

- Problem
  - Why do we care about your story? Is there a hole in the existing research? Is there an impending crisis?

- Solution
  - Methods
  - How do you plan to address the problem?

- Resolution
  - Results / Discussion
  - What did you find out? How does this address your problem? What now?
Content

- What sections do you want to include?
  - Science:
    - Abstract
    - Introduction
    - Hypotheses
    - Methods
    - Expected results
    - Results
    - Discussion
    - Broader implications
  - Liberal arts:
    - Summary
    - Introduction
    - Questions or thesis
    - Arguments in favor / against
    - Discussion
    - Broader implications

- How much weight do you want to give to each section?
  - Depends on how much background information is necessary
  - Depends on importance of methods used
  - Depends on whether you’ve completed the project/study or are just starting
Posters vs...

- Differences between talks and posters
  - You’re not going to be able to clarify points because you won’t always be at your poster
  - Your poster needs to draw people in and keep their attention because they can always just walk away if they aren’t interested
  - Your poster should enable the audience to pick and choose: if they just want to know what your questions are and what the answers are, they should be able to find those easily

- Differences between papers and posters
  - Length!
    - Fewer words are always better
    - White space is a good thing
  - Organization
    - One whole story is easier to follow than the intro to several stories, methods for several stories, results for several stories, etc.
Size
Poster Size

- Most poster sessions have guidelines re: poster size
- Make sure your printer can handle the size you choose
- Set size (proportions) in PowerPoint BEFORE building your poster if possible
  - Design > Page Setup…
- If you need to change sizes with an existing poster:
  - Shttp://gradschool.cofc.edu/research/PosterGuidelinesselect all content, Cut all content, change the size, and Paste all content.

Design Tab
Font Type and Size

- Most poster sessions have guidelines re: font type and size
  - Experiment: print out a whole sheet with different font sizes and types
  - View poster at 100% magnification
  - San-serif vs. serif
    - *Introduction* (Arial size 18)
    - *Introduction* (Times New Roman size 18)
  - Should be legible from 5 feet away
    - 70 for title – BOLD + short (should fit on one line)
    - 48 for authors - BOLD
    - 36 for headings – BOLD + different color
    - 28 for body of text
    - 22 for captions
    - Graphs: axes and labels no smaller than 24
    - Don’t use all caps except in headings
    - Nothing smaller than 18
Visuals
● What figures do you want to include?
  ● Pick out appropriate pictures, diagrams, graphs, tables FIRST
  ● Size them appropriately
  ● Decide whether they can stand on their own or should be included in a section

● Arrange sections so the reader can easily follow your story
  ● Make the significance very clear!!!
Aesthetics

- **Color**
  - Make sure your color palette is consistent throughout your poster
    - Base color palette on pictures you’ll use
- **Alignment**
  - Make sure sections are equally spaced from each other
  - Make sure sections are aligned with each other and centered
Color

- Different color is easier to discern than different shapes:
  - For different levels of bullet points → use different color
  - Use DIFFERENT bold, primary colors NOT neon or pastels
Juveniles
Sub-adults: harvested in slot (most likely to be overfished)
Adults: least researched

<table>
<thead>
<tr>
<th>Year</th>
<th>Period</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1999 - 2000</td>
<td>Ashley R.</td>
</tr>
<tr>
<td>1</td>
<td>2000 - 2001</td>
<td>Sept - Aug</td>
</tr>
<tr>
<td>2</td>
<td>2001 - 2002</td>
<td>Wando R.</td>
</tr>
<tr>
<td>3</td>
<td>2002 - 2003</td>
<td>Adults: least researched</td>
</tr>
<tr>
<td>4</td>
<td>2003 - 2004</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2004 - 2005</td>
<td>Adults: least researched</td>
</tr>
</tbody>
</table>

Charleston Harbor
Color Blindness

- Make sure all info conveyed in color is accessible in black and white
- Choose colors that are visible to those who are color blind
Pictures

- Include what is necessary to tell the story
- Avoid putting text over pictures
- Crop picture appropriately
- Avoid using a picture as the background for your entire poster

Working up a red drum for length measurements
Introduction

Red drum is an important recreational species in the southeastern U.S. [1] whose abundance appears to be declining despite the implementation of increasingly strict regulations [2].

Microsatellites provide the resolution to differentiate stocked from wild fish throughout their life [7]. By comparing microsatellite markers in sampled adult red drum to known broodstock, individuals can be

Figure 1. Working up a red drum for length measurements

Microsatellites provide the resolution to differentiate stocked from wild fish throughout their life [7]. By comparing microsatellite markers in sampled adult
Lines

- Put borders around pictures and graphs
  - Experiment: print out different thicknesses to find one you like
Red drum is an important recreational species in the southeastern U.S. [1] whose abundance appears to be declining despite the implementation of increasingly strict regulations [2]. Stock enhancement is a widely accepted management tool which often incorporates new genetic techniques with traditional methods [3,4].

South Carolina researchers have followed experimentally stocked small juvenile red drum up to two years post-stockling and found a substantial local contribution using otolith marking [5]. However, no studies ON ANY LONGLIVED SPECIES have been able to follow stocked fish into the adult population (ref). To do so requires the use of molecular tags, which have the advantage of being nonlethal and present throughout an individual’s life [6].

Microsatellites provide the resolution to differentiate stocked from wild fish throughout their life [7]. By comparing microsatellite markers in sampled adult red drum to known broodstock, individuals can be identified as stocked or wild with a high degree of certainty, thereby allowing the contribution of juvenile stocked red drum to be determined after recruitment to the adult population at roughly four years of age [8].
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## Presenting Data

- A picture is worth a thousand words
- Graphs are better than tables

<table>
<thead>
<tr>
<th>Location</th>
<th>S</th>
<th>W</th>
<th>T</th>
<th>C (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charleston Harbor</td>
<td>30</td>
<td>484</td>
<td>514</td>
<td>5.84</td>
</tr>
<tr>
<td>St. Helena Sound</td>
<td>0</td>
<td>32</td>
<td>32</td>
<td>0</td>
</tr>
<tr>
<td>Winyah Bay</td>
<td>1</td>
<td>346</td>
<td>347</td>
<td>0.29</td>
</tr>
<tr>
<td>Port Royal Sound</td>
<td>1</td>
<td>333</td>
<td>334</td>
<td>0.30</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td>32</td>
<td>1195</td>
<td>1227</td>
<td>2.61</td>
</tr>
</tbody>
</table>
Presenting Data

- A picture is worth a thousand words
  - Gives audience something to focus on while reading

Elizabeth Bennet, the heroine of our story, is the second eldest in a family of four girls.
Presenting Data

- A picture is worth a thousand words
  - Gives audience an idea of spatial and temporal scale

Presenting Data

- A picture is worth a thousand words
  - Point out key features with arrows- do not overcrowd, though

  - Use of cannon to deter advancement
  - General of the colonial forces leading troops
  - Use of long musket by colonials
  - Treatment of dead by retreating troops
Seagrass beds and small tidal creeks in estuaries are the nursery habitat for larvae and juveniles until reproductive maturity is reached at approximately four years of age. Red drum that have left the shallow nursery habitat are referred to as sub-adults and use larger tidal creeks and estuarine rivers. Adults leave the estuary upon reaching sexual maturity and migrate along the coastline, feeding on fish and portunid crabs. Spawning season varies depending on the location within their larger range, and occurs over variable habitat types. Peak spawning generally occurs between August and November. Sub-adults are the only individuals that are legally allowed to be landed due to the slot limit which occurs completely within the sub-adult life stage. Consequently, they are also the life stage that is most likely to be over-fished. Adults, which are offshore and not legally landed have the least amount of information available in the research.
Graphs

- **Type**
  - Which type will best present your story? Line, Bar, Pie?
  - What formatting details will best present your story?
  - Make result graphs very large → this is the crux of your entire poster

http://xkcd.com/688/
Graphs

- Axes
  - Clearly label axes
  - Use the same font as the body of your text
  - Use units that make sense
  - Use appropriate label intervals
  - If possible, orient y-axis labels so horizontal instead of vertical

http://xkcd.com/893/
Graphs

- Plot area
  - Do NOT include gridlines since they’re visually cluttering
  - Do NOT have a solid background for your plot area
- Use different colors instead of different dashed lines or fill patterns
  - Make sure colors are discernable as different shades of grey when put in black and white
- Label graph instead of using a key if possible

http://xkcd.com/930/
Graphs

- Sometimes one graph is adequate

![Graph](http://xkcd.com/963/)
Graphs

- Sometimes one graph is confusing and should be separated out into multiple
  - Depends on how you plan on discussing the results

http://xkcd.com/980/
Body of Text
Red drum is an important recreational species in the southeastern U.S. [1] whose abundance appears to be declining despite the implementation of increasingly strict regulations [2]. Stock enhancement is a widely accepted management tool which often incorporates new genetic techniques with traditional methods [3,4].

South Carolina researchers have followed experimentally stocked small juvenile red drum up to two years post-stocking and found a substantial local contribution using otolith marking [5].
Spacing

- White space is good
  - Incorporate space between headings or paragraphs
  - Home > Paragraph > Dialog Box in bottom right hand corner
**Introduction**

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**Methods**

Used several methods of determining contribution to evaluate influence of location and methods of defining year classes

- **Overall contribution:**
  - Contribution = (# stocked fish / total #) * 100

- **Contribution narrowed by length:**
  - Determined minimum and maximum size of stocked fish or each sample year
  - Determined total number of fin clipped fish occurring in that size range
  - Contribution = (# stocked fish / total # in size range for each sample year) * 100

- **Contribution narrowed by age-at-length keys:**
  - Lengths combined into 30 mm bins and ages represented in years for all otolith-aged fish
  - Determined count of fish of each age for each length bin
  - All fish in the ages of interest (5 – 9 years) in size bins 780 - 960 mm TL
    - Extrapolate age of un-aged individuals by calculating percentage of aged individuals in each age bin for each length bin → values applied to length frequency of all fin clipped fish by sample year
Drafts

- A poster needs to be revised just like a talk or paper
  - Give to advisor / committee members
  - Give to fellow students or people who are not in any way involved
  - Use comments in PowerPoint:
    - Review > Comment OR Review > New Comment
Printing

- Plan ahead – know when and where you are going to print your poster
  - If you need to pay for your poster, look for funding assistance!

- Ask your advisor or department head for your printing options.

- Borrow a case for your poster even if you aren’t traveling very far.
Presenting

- Prepare a 3 minute oral presentation of your poster.
  - Keep it simple, organized, and focused.
  - Consider your audience.
  - Excitement is contagious!
  - Take the opportunity to meet your visitors and network once you are comfortable with your presentation.
Conclusions

- Steps to building a poster
  - Set size first
  - Choose images and figures
  - Finalize color scheme and layout
  - Add text where necessary
  - Have poster reviewed and revised
  - Print and hang – give yourself plenty of time!
  - Enjoy your poster session

- A poster tells a visual story
  - Use visuals!
  - Make sure poster is self sufficient
  - Avoid excessive text and visual “clutter”
More info

- http://www.swarthmore.edu/NatSci/cpurrin1/posteradvice.htm