Creating Effective Poster Presentations

Effective posters are those used as visual communications tools
Effective posters...

• Engage people in conversation
• Get your main points across to as many people as possible in a short amount of time
Effective posters also…

• Have a focused message
• Let graphics and images tell the story, not a lot of text
• Keep the sequence ordered and obvious
First Step

• Knowing your audience is the single most step
• Choose images and text that are appropriate for your audience
Step-by-Step

• Planning
• Focus
• Layout
• Heading
• Graphics
• Text
Step-by-Step

- Colors
- Editing
- Software (Photoshop vs. PowerPoint)
- Presenting your Poster
Planning

• Define your message
• Know your audience
• Goal is to convey a clear message using images and short blocks of text to support your message
Planning Details

• How much room do I have?
  – Poster size
• How much money do I have?
• What milestones should I establish (timeline)?
Focus

• Keep it simple with a focused message
• Trying to put too much on a single poster can be very distracting to your viewers
Do this ...

- Edit ruthlessly! Simplify. Supply details in person, and only as needed.
- Remove all but the most essential information about your methods.
- State your results with headings, and focus on results and conclusions.
- Convince viewers (potential employers) that you are a thoughtful, results-oriented researcher.

... not this

- Emphasize methods rather than the main message.
- Identify every detail of your methods, just in case you're not in front of your poster when someone comes by.
- Even in the results and conclusions, be sure to emphasize your methods over your findings.
- Convince viewers (potential employers) that you are a task- and methods-oriented technician.
Layout

• A clear visual guides your viewers through your poster
• Using a column format is much easier to follow
• Use white space creatively
Do this …

Use a graphic hierarchy that visually reflects the relative importance of elements.

- If it’s important, make it big. Use type size proportional to importance.
- Show, don’t tell. No need to write down every detail.
- Use simple figures and graphs, which should dominate the poster visually.
- Make all graphic elements large enough to be visible easily from one meter away.

… not this

Use a text-heavy, publication-style format.

- Use 12-point font for just about everything. Actually, you could just staple up your manuscript - why not?
- Include every detail as you would for a journal article.
- Use complex, difficult to understand graphics, which are only a small portion of the poster.
- Make sure your figures are all small enough to fit on a small portion of a journal page.
Do this ...

Use a columnar format. It allows readers to read the entire poster as they proceed from left to right.

- If the poster is organized in columns, viewers can read all of a column before they move to the next column.
- Readers tend to read top to bottom, a phenomenon called “reader gravity” by Wholden (1996).

... not this

Use a row-oriented layout. This format moves readers past your poster very quickly.

- Viewers who read the first row might be unable to fight their way back to the beginning.
- They will proceed quietly to the next poster.
Do this ...

Supply cues to help viewers follow your presentation.
- Organize visually (revisit the VISUAL GRAMMAR discussion) and in columns (revisit the USE COLUMNS discussion).
- You can also use numbers, letters, or arrows to help guide viewers through your poster.

... not this

Let viewers guess the sequence.
- Organize your poster in a "unique" manner that defies reader gravity and gives the readers no idea of your organizational flow.
- Avoid helping viewers figure out where to start or where to go next.
Headings

• Headings include the title, section titles, and figure captions
• They should summarize, organize, be hierarchical, and be bold
Can Suburban Greenways Provide High Quality Bird Habitat?

George R. Hess :: NC State University :: Department of Forestry & Environmental Resources :: Raleigh NC 27695-8002 USA :: george_hess@ncsu.edu
Christopher E. Meerman, Jamie M. Mason, Kristen E. Sinclair, Salina K. Kohut :: NC State University :: Department of Forestry & Environmental Resources
www.ncsu.edu/~ghess/GreenwaysForWildlife

Birds of Conservation Concern in Decline
- Many bird species of conservation concern – including neotropical migrants, insectivores, and forest-interior specialists – decline with increasing human development
- Greenways might mitigate this effect
- Habitat patch size, vegetation composition & structure, and landscape context are key factors
- Standards are lacking for designing and managing suburban greenways as high-quality habitat

Objective: Greenways for the Birds
- Determine how development-sensitive forest birds are affected by
  - Forested corridor width
  - Adjacent development intensity
  - Vegetation composition & structure
  - Develop recommendations for greenway designers and planners

Study Design & Independent Variables
- Sampled 34 – 200m corridors in Raleigh & Cary, NC, USA
- Sampled range of:
  - Forested corridor widths (20 – 200m)
  - Adjacent density (low density residential – office/commercial)
- Additional measures:
  - Vegetation composition & structure in corridor
  - Land cover in 300m x 200m adjacent to corridor (context)
- Measured richness & abundance of:
  - Breeding birds
  - Neotropical migrant birds during stopovers
  - Mammal nest predators

Breeding Birds of Concern More Common in Wider Greenways with Less Managed Area Surrounded by More Forest Canopy
- 8-minute, 50m point counts at center of corridor
- Revisited 4 times during breeding season
- Significant Predictors for Breeder Abundance:
  - Forested Corridor Width (m)
  - Managed Area
  - Canopy Cover
  - Shrub Cover
  - Building Density
  - Bare Earth

Nest Predators Less Common in Wider Greenways with Narrower Paths
- Five baited scent stations along each greenway segment
- Observed for 5 nights each
- Significant Predictors for Predator Abundance:
  - Corridor width
  - Building density
  - Trail width
  - Mature forest
  - Ground cover
  - Vine cover

Greenways for Development-Sensitive Forest Birds Might Conflict with Intense Recreational Use

Spring Neotropical Migrant Stopovers More Common in Wider Greenways with More, Taller Hardwood Trees
- 200m x 25m transects along one side of greenway path
- Revisited sites for two spring seasons and one fall season
- Width not significant, but trend consistent with other findings

Potential Solution: Wide Corridor, Trail Near Edge
- Make corridors at least 50m wider; wider is better
- Don’t split forested corridor
- Keep trails as narrow as possible
- Avoid wide grassy areas along trails within forested corridor
- Locate trails near the edge of forested corridors

The University of Iowa
Southern Flounder Exhibit Temperature-Dependent Sex Determination
J. Adam Luckenbach, John Godwin and Russell Borski
Department of Zoology, Box 7617, North Carolina State University, Raleigh, NC 27695

Introduction
Southern flounder (Paralichthys lethostigmus) support valuable fisheries and show great promise for aquaculture. Female flounder are known to grow faster and reach larger adult sizes than males. Therefore, information on sex determination that might increase the ratio of female flounder is important for aquaculture.

Objective
This study was conducted to determine whether southern flounder exhibit temperature-dependent sex determination (TSD) and if growth is affected by rearing temperature.

Methods
- Southern flounder broodstock were strip spawned to collect eggs and sperm for in vitro fertilization.
- Hatched larvae were reared from a natural diet (Rotifers/Artemia) to high protein (pelleted feed) and fed until settling at least twice daily.
- Upon reaching a mean total length of 40 mm, the juveniles were stocked at equal densities into one of three temperatures 18, 23, or 28°C for 245 days.
- Gonads were preserved and later sectioned at 2-6 microns.
- Sex-distinguishing markers were used to distinguish males (ovotestes) from females (oogenital).

Histological Analysis

<table>
<thead>
<tr>
<th>Temperature (°C)</th>
<th>% Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>20%</td>
</tr>
<tr>
<td>23</td>
<td>35%</td>
</tr>
<tr>
<td>28</td>
<td>50%</td>
</tr>
</tbody>
</table>

(*p < 0.01 and **p < 0.001 represent significant deviations from a 1:1 male:female sex ratio)

Rearing Temperature Affects Growth

<table>
<thead>
<tr>
<th>Temperature (°C)</th>
<th>Body Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>23</td>
<td>20</td>
</tr>
<tr>
<td>28</td>
<td>25</td>
</tr>
</tbody>
</table>

Growth Does Not Differ by Sex

<table>
<thead>
<tr>
<th>Temperature (°C)</th>
<th>Body Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

Results
- Sex was discernible in most fish greater than 120 mm long.
- High (28°C) temperature produced 4% females.
- Low (18°C) temperature produced 22% females.
- Mid-range (23°C) temperature produced 44% females.
- Fish raised at high or low temperatures showed reduced growth compared to those at the mid-range temperature.
- Up to 245 days, no differences in growth existed between sexes.

Conclusions
- These findings indicate that sex determination in southern flounder is temperature-sensitive and temperature has a profound effect on growth.
- A mid-range rearing temperature (23°C) appears to maximize the number of females and promote better growth in young southern flounder.
- Although adult females are known to grow larger than males, no difference in growth between sexes occurred in age-0 (< 1 year) southern flounder.

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GRAPHICS
Graphics

• Graphs
• Illustrations
• Photos
Graphics

• Write explanations directly under the images rather than referencing them in a sidebar

• Resize graphics ahead of time, especially high-resolution photos
No!

Better!

Lynx-Hare Population Oscillations
(represented by trapping data)

Number of Pelts

Year

1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24  25  26

0  50  100  150  200  250

Lynx  Hare

Number of Pelts

Year

1  6  11  16  21  26

Lynx  Hare
Text

• Size of text will partly be determined by the size of your poster
• Minimize text and make it large enough to attract attention and be read
Text

• Should be at least 24 point, 36 for headings
• Should be in a serif (Times New Roman) font because they are easier to read
• Should not be center justified except when it is a few words
COLOR
Color

• Use color to grab attention, organize and emphasize
• However, don’t use too much color or it will distract the viewer
• Try to use a thematic color scheme to be consistent
Color

• Overly bright colors will attract attention, but is harder to read so only use them for short amounts of text
• Consider color blindness (know your audience)
Editing

• Once you have your poster done, go back and edit again
• See if there are words that you can drop out
Software

- Many types of software can be used to create posters
- Most common are Adobe Photoshop and Microsoft PowerPoint
Other Software

• Adobe InDesign
• Adobe Illustrator
PRESENTING YOUR POSTER
Presenting your Poster

• Arrive early
• Be confident
• Know your supporting material
• 8 ½ x 11 handout/takeaways
• Business cards
http://www.ncsu.edu/project/posters/examples/

POSTER EXAMPLES
Some parts of this presentation were borrowed from the following

www.ncsu.edu