Scientific Poster Design

How to keep your poster from resembling an “abstract painting”
A poster can be better than giving a talk

More efficient because:

• you totally bomb at giving talks
• can be viewed while you nap
• can hang in the department for years
• can reach folks not in your field of research
Posters serve as...

An advertisement of your hard work

Kool, wow!, check this out!, you must be smart!
It’s just an illustrated abstract
Is my abstract effective?

- Why should anyone care?
- What am I adding to current knowledge?
- Do I need to explain methods?
- Have I told them what I found and recommend?
A portrait of a grad student
@$&%!@#$, I have 12 hours to throw this thing together and get it printed before it’s due.
How do I get months and years of research onto my poster?

- Your poster is a short story
- Describe a few major points
- Arouse the reader’s interest to read on
- Limit it to 250 words
Recite after me,
Less is best!
Simplify your paper into poster format

Find out the size required!
Who’s my audience?
Remember, most of these “scientists” come for the free booze
Start putting together your 2 main elements
1) Simple, effective data displays

Don’t make them stand on their heads to read your data!
Keep it simple but effective
2) Small blocks of supporting text

The need for chairs in front of your poster will not go over well.
Your copy should answer...

Why?
What am I adding?

Methods?
What did I find?

What do I recommend?
I could actually read this
Where do I start?
Pick a software program

Although you’ll probably gravitate towards PowerPoint, consider a true design program.
PowerPoint

- OK, but the colors will fool you
- Easy to use
- Inflexible
- Designed for overhead projection
Adobe Illustrator or InDesign

- Excellent
- More difficult to learn
- What you see is what you get
- Others: Canvas, Publish-It, Corel Draw, LaTeX, etc.
Let’s design a poster!
Your poster title: **Think BIG! Really Big!**

Your biggest impact! **Boldface** type
Not all caps!

Group authors names and affiliations
The Secrets of Readable Text:

- Large type states methods, not results
- Results artfully buried in a methods description
- Carefully omits interpretations
The reason is...

• Leave breathing space around your text

• Plain fonts even serif here

• Same size and style

• Left-aligned
Hi there, my name is Mitch Collinsworth and I would like to tell you about myself and how I got this job at Cornell. Well you see, my uncle had a friend who knew my cousin on the other side and his daughter worked for facilities. I was down on my luck and my sister told me she knew a guy who’s nephew’s wife’s kid worked for this guy’s father and what can I say, he hired me with no questions asked and just told me to keep my mouth shut. So here I am at CCMR.
Hi there, my name is mitch collinsworth and I would like to tell you about myself and how I got this job at cornell. Well you see, my uncle had a friend who knew my cousin on the other side and his daughter worked for facilities. I was down on my luck and my sister told me she knew a guy who’s nephew’s wife’s kid worked for this guys father and what can I say, he hired me with no questions asked and just told me to keep my mouth shut. So here I am at CCMR.
• Put the most important part first!
• Short and to the point!
• Upper left hand corner

Conclusions first!

Your Ingenious Teaser Right Here to Woo Them Down to the Body

Introduction
• Posters are primarily visual presentations. Your poster should be dominated by self-explanatory illustrations such as graphs and pictures while the amount of text should be kept to a minimum.

Your aim
• Your poster is an advertisement for your research and as such it needs to be eye-catching and straight to the point. You only have seconds, or at best a few minutes to attract the attention of the visitor to a poster session. Keep your message short and clear.

Your message
• Keep your message clear and your text concise. Decide what is relevant for this poster and try to get your message across to your target group.

Layout, photos and print
• Contact Mathematica at University Library for help with layout and image enhancements. For printouts and professional photographs contact Mathematica. For more information: Mathematica's Help.

Tips:
• The best font for text blocks that are as short as they should be on a poster is a basic serif typeface such as Arial or Times. Avoid fonts like Times or Courier.
• AVOID CAPITAL LETTERS IN TEXTS THAT ARE LONGER THAN ONE LINE, SINCE THEY ARE MORE DIFFICULT TO READ.

Handouts
• It is always nice to put in a picture and write some few short notes of what's going on in the future. Put handouts, business cards, neatly — or in an envelope—tang with the poster.
Easy for the eye to follow

Utter chaos will make folks dizzy!
substance X induces Y-cells

Context:
Y-cell require induction, substance X may be the inducer because we know virtually nothing about X, but we had some on the shelf.

1. lots and lots
2. lots of tiny, tiny type, little and lots and lots of tiny type
3. lots and lots of tiny type
4. lots of tiny type
5. lots of type
6. lots of type

Details and more details on tiny type and tiny tiny type.

Details and lots of details on tiny type and tiny tiny type.

Details and lots of details, more details, lots of type.
Can anyone read your body text?
Your Ingenious Teaser: Right Here to Woo Them Down to the Body

Conclusions first: 44 pt bold
Always put the most important part first: Place your conclusions in the upper left hand corner of your poster. Prepare your material from the reader’s perspective. What was done, by who and your conclusion has to be understood within a couple of seconds reading! Use active voice when writing the text: 34 pt regular

Introduction
Posters are primarily visual presentations. Your poster should be dominated by self-explanatory illustrations such as graphs and pictures while the amount of text should be kept to the minimum.

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Tips:
The best font for text blocks that are as short as they should be on a poster is a Sans Serif typeface like ‘Helvetica’, ‘Times New Roman’ or ‘Avenir’; serif fonts such as ‘Arial’ or ‘Times’ are more difficult to read.

Avoid capital letters in texts that are longer than one line, since they are more difficult to read.

Handouts
If you succeed in getting the reader’s attention, provide him with more detailed information in the form of handouts or printed articles. Include references on your handout instead of your poster.

It is always nice to put in a picture and write some short notes of what’s going on in the future. Put handouts, business cards, nearby - on a table or in an envelope hung with the poster.
Images and graphs say much more than words.
Keep posters visual!
Picture perfect photos

• Avoid resolution overkill!
  At least 150 dpi, but no more than 300 dpi

• Save photos as jpg or png
  Line art as a png (graphs)

• Web images are usually poor resolution
Your cool images mean nothing without a scale bar or description.
Don’t forget your funding acknowledgements

CNF-NSF-BMR, etc
Your department can provide you with the required wording
Your contact info!!!

Without it you’ll become
“ya know, those guys with the awesome poster”

Include all contact info:
• Mail address
• Phone
• E-mail
Using color to engage your readers

2-3 colors, no more!

Dark type on light color background
Whoa! Where’s my sunglasses?

This attracts attention but tires out the eye
Be careful with the primary colors
Blue on Red appears blurry to the human eye.

Yellow on white is hard to read

Red on Blue appears blurry to the human eye.
http://www.colorschemer.com/online.html
Be aware of busy backgrounds

**Snook Growth in Habitats with Differing Abiotic Variability**
Alesio Read, North Carolina State University, aread@unity.ncsu.edu

**PROPOSED OBJECTIVE**
To create a useful tool for assessing potential stocking habitats based on degree of variability in water quality.

- Snook are a popular game fish found in the estuarine creeks of Florida.
- Snook population has been on the decline due to overfishing and habitat degradation.
- Numerous stock enhancement endeavors are currently underway without sufficient preliminary research.
- Abiotic variability is a prominent feature of these estuaries.
- Temperature, dissolved oxygen and salinity might play influential roles in the survivorship of the juvenile snook.

**STUDY SITES**
North Creek Sites

**METHODS**
1. Juvenile snook were raised in tanks (0.08-29 cm) in an aquaculture facility.
2. Approaches are tagged with identifying markers for individual growth measurements.
3. Fish are placed in ex-eggs within variable habitats at the research sites for 40 days.
4. Fish are weighed and measured for growth.

**RESULTS**
- **North Creek Lower (High Variability)**
  - Negative Growth
  - Dissolved Oxygen (mg/L): 6.22
  - Salinity (ppt): 2.21
  - Temp (°C): 25-34

- **North Creek Middle (Medium Variability)**
  - Positive Growth
  - Dissolved Oxygen (mg/L): 6.5
  - Salinity (ppt): 16-30
  - Temp (°C): 40-38

- **North Creek Upper (Low Variability)**
  - Slow Growth
  - Dissolved Oxygen (mg/L): 6.4
  - Salinity (ppt): 16-30
  - Temp (°C): 20-34

**CONCLUSION**
- Snook exhibit increased growth in habitats with a medium degree of abiotic variability.
- Stock enhancement projects will be more efficient by releasing juvenile snook primarily in nursery habitats with a medium degree of abiotic variability.
Southern Flounder Exhibit Temperature-Dependent Sex Determination

J. Adam Lencerbach*, John Godwin and Russell Bodoki
Department of Zoology, Box 7617, North Carolina State University, Raleigh, NC 27695

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

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

Methods
- Southern flounder broodstock were spawned (spawning females and sperm from a single male) at 25°C (the normal ambient temperature) and the eggs were fertilized.
- Hatchlings were reared from the hatching stage to sexual maturity in tanks maintained at 25°C (high), 18°C (medium), and 11°C (low) temperatures. Fish were fed twice daily.
- Upon reaching a snout-to-axil length of 40 mm, the females were separated into groups of 18 females each, and reared in tanks at 25°C, 18°C, and 11°C temperatures for 245 days.
- Females were reared and sexed under different rearing temperatures (spawning females) for another 245 days.

Histological Analysis
- Male and female differentiation

Results
- Sex was discernible at least 60 days greater than 150 mm length.
- High (25°C) temperatures produced 85% females.
- Low (11°C) temperatures produced 55% females.
- Male growth (25°C) temperature produced 85% females.
- Females reared at high or low temperatures showed reduced growth compared to those at the mid-range temperature.
- Up to 1,545 days in difference in growth correlated 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 (25°C) appears to maximize the number of females and promote faster 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 to 1 year southern flounder.

Acknowledgements
The authors acknowledge the financial support from the National Science Foundation and the American Society of Ichthyologists and Herpetologists.
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 (TDS) and if growth is affected by rearing temperature.

Methods
- Southern flounder juveniles were reared in tanks holding 100 individuals to high protein diet of chopped fish and fed until saturation at least twice daily.
- Upon reaching a mean total length of 40 mm, the juvenile flounder were stocked at equal densities into one of three temperatures 18, 22, or 26°C for 30 days.
- Gonads were preserved and later sectioned at 5.6 microns.
- Sex-distinguish markers were used to distinguish male (spermatogenesis) from females (ovarian).

Histological Analysis

Results
- Sex was discernible in most not greater than 120 mm long.
- High (28°C) temperature produced 4% females.
- Low (18°C) temperature produced 22% females.
- Mid-range (22°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 (22°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 (or 1 year) southern flounder.

Acknowledgements

- Funding from the National Science Foundation and North Carolina Sea Grant.
- Contribution from the Aquaculture Research Center and the Department of Zoology, NC State University.
Edit, Edit, Edit and Evaluate!
Print out a letter size draft

Can you read the type?
Are these the colors you really want?
Does it look too busy?
Do my main points pop?

Keep it simple
CCMR has 2 poster printers!

Our wonderful computing facilities offers state of the art poster printing

The secret of a good poster: “Ugly design print ugly poster”

http://cf.ccmr.cornell.edu/cf_newsite/poster_print/index.html
You’re not done yet...

Prepare a 3-5 minute verbal explanation

Is he ever going to SHUT UP???
Prepare mini size poster handouts

- Provides a written record for interested folks
- Makes you look together
- Be sure to include complete contact information
- Might even get you a job!
Let’s judge some designs and see what you’ve learned
Using a Windbreak Habitat Model Across Broad Geographic Landscapes: The Effect of Landscape Composition and Geographic Location

George Hess¹, John Poulson¹, Raymond O'Connor¹, Jeff Bay¹

1. Windbreaks as Habitat

Windbreaks, which are comprised of a strip of trees, can be an effective tool for altering the microclimate of an area. They can reduce wind speed, provide shade, and improve soil moisture. Windbreaks also have the potential to improve the aesthetics of an area, providing a natural boundary and habitat for wildlife.

2. Regional Evaluation of Windbreaks

Regional evaluation of windbreaks involves assessing the impact of windbreaks on local weather conditions and landscape composition. This can be done through the use of meteorological data and geographic information systems (GIS) to create maps and models that illustrate the potential benefits and limitations of windbreaks.

3. Bird Species Richness Index

The bird species richness index is a measure of the diversity of bird species within a given area. It is calculated by dividing the number of species by the total number of birds observed. This index can be used to assess the impact of windbreaks on bird diversity and to identify areas with high or low bird diversity.

4. Validating BSBE Model

In 2002, a team of 10 researchers conducted a study to validate the BSBE model. They found that the model accurately predicted the number of birds observed in different habitats. This finding suggests that the BSBE model can be used to predict bird diversity and to assess the impact of windbreaks on bird populations.

5. Local Landscape-Scale Effects

Local landscape-scale effects are important to consider when evaluating the impact of windbreaks on local climate and landscape composition. These effects can include changes in temperature, humidity, and precipitation, as well as changes in soil moisture and vegetation patterns.

6. Failure of the Model

There were several challenges in the implementation of the model. One of the main challenges was the difficulty in accurately predicting the number of birds observed in different habitats. This was due to the complexity of bird behavior and the influence of other factors, such as weather and habitat availability.

7. Results of Validation

The results of the validation study showed that the BSBE model accurately predicted the number of birds observed in different habitats. This finding provides evidence that the model can be used to predict bird diversity and to assess the impact of windbreaks on bird populations.

8. Conclusions

The BSBE model provides a useful tool for predicting bird diversity and for assessing the impact of windbreaks on local climate and landscape composition. However, further research is needed to refine the model and to assess its accuracy in different regions and under different conditions.

Acknowledgments: This work could not have been done without the many dedicated people at the National Agricultural Research Service who helped in developing the model. The authors wish to thank all those who contributed to the success of this project.

¹South Carolina State University, Forest Dynamics, Orangeburg, SC.
²University of Maine Department of Wildlife Ecology, Orono, ME.
³Texas A&M University, Resource Management, College Station, TX.
Determining the Wear Resistance of Occlusal Splints in a Prospective Clinical Study

P. Ottl, P. Schmelz, A. Piwowarczyk, H.-Ch. Lauer
Dept. of Prosthodontics, School of Dentistry (Director: Prof. Dr. H.-Ch. Lauer), ZMK (Carolinum), J. N. Goethe University, Frankfurt, Germany

Objective

To determine quantitatively the wear resistance of a newly developed light-curing splint material over a period of six months.

Materials and Methods

- **Patients**
  - n = 20 consecutive patients
  - mean age: 54.7 years; 12 M, 8 F
- **Inclusion criteria**
  - Natural dentition without denture
  - Complete dentition at least the 1st molar and 4 premolars
  - Insufficient occlusal support
  - Increased occlusal load due to dental or medical reasons
- **Exclusion criteria**
  - Existing splint material
  - TMJ pain
  - Complete occlusal disclusion of the disk without reduction or with recurrent reduction
  - TMJ occlusal interference

![Image of teeth](image1)

- **Resin splint material (Fig. 1)**
  - High-curing (600-900 s)
  - High-molecular ionomer cements with organic and inorganic glasses
  - Does not contain methyl methacrylate

![Image of resin splint material](image2)

- **Measuring technology (Fig. 2)**
  - Vibration-induced tube framework
  - 1 translation stage (for rotations x, y, and z)
  - DC-Motor (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, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50)
  - 22 measurement points for occlusal contacts during baseline measurements
  - Ten measurements each in regions 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, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50
  - Splint repositioned on a new cast

![Image of measurement setup](image3)

- **Study design**
  - Duration: 6 months
  - Types of splints (maxillary; maxilla; mandibular)
  - Occlusal splint, restoration splint
  - Splint wear mode: 24 hours
  - Examination below injection (RL), at 1 week (4W), at 3 months (3M), at 6 months (6M)
  - Occlusal adjustments were restored to the time before 4W.

![Image of study design](image4)

- **Statistical analysis**
  - Mann-Whitney U-test, p ≤ 0.05 showed no significant differences when comparing the corresponding results of occlusal and restoration splints.

![Image of statistical analysis](image5)

Conclusions

- The present study clinically confirms the good wear resistance result of the newly developed splint material obtained in a previous in vitro study (OTTI et al., Dtsch Zahnärzt 7: 32. 342 (1997)).
- Good wear resistance is of great importance for maintaining the therapeutic mandibular position during the treatment period (Figs. 3a and 4).
A Framework for Assessing the Condition of Agricultural Lands

George Hess1, Anne Hellkamp3, Mike Mastron3, Steve Peck3, Lee Campbell3, Betty McQuaid4, Steve Shafer5

Mission: To develop indicators of the condition of agricultural lands within an ecological framework, and to monitor and evaluate this condition on a regional basis.

Sustainability

Sustainable agriculture has been described as a model that balances the needs of present and future generations. This model aims to support the needs of both human and non-human species, and to ensure that agricultural systems are resilient to changes in the environment.

People place value on agricultural lands that are productive and support healthy communities. Although these values are often expressed, they are typically not measured.

In our efforts, we seek to incorporate only the ecological aspects of sustainability.

The ecological condition of agricultural land is an important indicator of the health of the environment and the well-being of human populations. Agricultural land is in good condition when it is productive and supports healthy communities.

Productivity

Productivity Land Stewardship

In making an assessment, conditions are expressed for each indicator. An overall condition may also be expressed, but depends critically on the relative weighting of the goals for agricultural lands.

For sustainability, one must consider trends in crop productivity and cropping patterns.

Potential Indicators for Annually Harvested Herbaceous Cropland

In the crop production system, the effects of developing indicators to assess the condition of annually harvested herbaceous cropland - land placed under crops that are harvested every year and which have a limited or confined use. Common examples are corn, wheat, soybeans, alfalfa hay, and sorghum.

We also understand the need for, rather than developing, existing systems. Our conceptual framework is flexible enough to incorporate indicators based on data from other monitoring efforts. For example, an annual indicator could be developed using the USDA’s Natural Resources Conservation Service’s Natural Resource Inventory data.

Fields are for crops... ...but landscapes are for all of us.

Acknowledgments: The USDA’s Agricultural Resource Management Survey includes many individuals and organizations that have supported this project. The individuals and organizations are listed in the Acknowledgments section. They include the USDA, the U.S. Department of Agriculture, the University of North Carolina at Chapel Hill, and the University of California, Berkeley.

Where do I begin?
PREVALENCE OF OBESITY AMONG INNER CITY LATINO CHILDREN AND ADOLESCENTS

Nazrat M. Mirza MD, ScD, Jill Merchant MS, Lesia Becker, PhD
Children's National Medical Center and George Washington University School of Medicine and Health Sciences, Washington, DC

Background
Obesity is a significant public health problem facing children and adolescents in the U.S. Of particular significance is the increasing prevalence of obesity and its complications among the Latino population. Obesity in this population is a concern not only because of the associated health problems but also because of the economic and societal costs. It is also known that obesity is associated with many chronic diseases, and it will have serious consequences on the health care system.

Purpose of Study
To estimate the extent of obesity among inner-city Latino children and adolescents and to set the goal of assessing the need for an obesity intervention program.

Study Design
The research involved a cross-sectional study of children and adolescents aged 4 to 19 years who were selected from four inner-city schools in Children's Hospital's Inner City Multi-Care for the School year 2006. This sample consists of 300 children, approximately 60% are females, and 40% are males. Information obtained from the parents included: weight, height, blood pressure, lab values, and physical findings associated with obesity. Study findings showed significant differences in the distribution of overweight and obesity among children.

Results
Table 1: Prevalence rates of overweight and obesity among children aged 4 to 19 years.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Prevalence Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-5 years</td>
<td>10.5</td>
</tr>
<tr>
<td>6-8 years</td>
<td>15.2</td>
</tr>
<tr>
<td>9-11 years</td>
<td>20.3</td>
</tr>
<tr>
<td>12-14 years</td>
<td>25.1</td>
</tr>
<tr>
<td>15-19 years</td>
<td>30.2</td>
</tr>
</tbody>
</table>

Table 2: BMI distribution

<table>
<thead>
<tr>
<th>BMI Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.5-24.9</td>
<td>180</td>
<td>60%</td>
</tr>
<tr>
<td>25.0-29.9</td>
<td>90</td>
<td>30%</td>
</tr>
<tr>
<td>30.0-34.9</td>
<td>30</td>
<td>10%</td>
</tr>
<tr>
<td>35.0-39.9</td>
<td>10</td>
<td>3%</td>
</tr>
<tr>
<td>40.0+</td>
<td>5</td>
<td>2%</td>
</tr>
</tbody>
</table>

Table 3: At Risk for Overweight and Obesity for Age Category

<table>
<thead>
<tr>
<th>Age Group</th>
<th>At Risk for Overweight (%)</th>
<th>At Risk for Obesity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-5 years</td>
<td>15.2</td>
<td>3.4</td>
</tr>
<tr>
<td>6-8 years</td>
<td>20.3</td>
<td>6.2</td>
</tr>
<tr>
<td>9-11 years</td>
<td>25.1</td>
<td>10.3</td>
</tr>
<tr>
<td>12-14 years</td>
<td>30.2</td>
<td>15.1</td>
</tr>
<tr>
<td>15-19 years</td>
<td>35.0</td>
<td>20.0</td>
</tr>
</tbody>
</table>

Conclusions & Recommendations
The prevalence of overweight and obesity among inner-city Latino children is significant and needs attention. The identification of overweight and obesity in early childhood is crucial for effective intervention programs. The results indicate that there is a need for comprehensive obesity intervention programs in inner-city schools.

I’m feeling sleepy.
OK, but which way do I go?
A Large-Scale Public Library Renovation in Taiwan

Background:

In order to upgrade the quality of public library services in Taiwan to meet users' needs and to meet the digital environment, the central government of Taiwan decided to renovate the NTL Public Library, which was built in the 1990s. The library was renovated to provide better facilities and services to the community.

Project:

The renovation project was divided into several phases, each focusing on different aspects of the library. The phases included:

1. Planning and Survey:
   - Needs assessment
   - Space planning
   - Budgeting
   - Project management

2. Renovation:
   - IT infrastructure
   - Furniture
   - Lighting
   - Acoustics
   - Accessibility

3. Service Improvement:
   - E-library
   - Mobile library
   - M-reading

4. Evaluation:
   - User satisfaction
   - Return on investment
   - Sustainability

Results:

The renovation project was completed in 2004, and the library was reopened to the public. The project successfully met the needs of the community and provided better services. The library now has a modern look, improved facilities, and better access to information resources.

Keywords:

- Public Library
- Renovation
- User Experience
- Technology
- Sustainability
WHICH IS MORE IMPORTANT: NUMBER OF PATCHES OR CONNECTIVITY?

Daron Kalivas, PBS Student

INTRODUCTION AND OBJECTIVES

The number of patches in a landscape can influence the connectivity of species among different patches. However, the number of patches alone is not enough to determine the overall connectivity of a landscape. The connectivity of a landscape depends on the size and shape of the patches, as well as the distance between them. In this study, we investigate the relationship between the number of patches and connectivity in different landscapes. We hypothesize that landscapes with a higher number of patches will have a greater overall connectivity than landscapes with a lower number of patches.

ASSUMPTIONS AND LIMITATIONS

1. All patches are equal in size and shape.
2. The distance between each pair of patches is constant.
3. There is no migration between different patches.
4. The landscape is not disturbed by human activities or natural disasters.

THE ISSUE

A meta-analysis of ecological connectivity, in which individual patches vary greatly, is needed. It is necessary to consider the complexity of the spatial relationships between patches in order to determine the overall connectivity of a landscape.

THE PROGRAM

The program is designed to simulate different landscapes with varying numbers of patches and different distances between them. The program will generate random landscapes with different numbers of patches and distances between them, and then calculate the connectivity of each landscape.

RESULTS

The results show that the number of patches is positively correlated with connectivity. This suggests that landscapes with a larger number of patches have a greater overall connectivity than landscapes with a smaller number of patches. However, the effect of patch size and distance on connectivity also needs to be considered.

CONCLUSIONS

The results of this study support the hypothesis that the number of patches is a critical factor in determining landscape connectivity. However, further studies are needed to understand the influence of patch size and distance on connectivity.

Nice flow, but too metallic
I’ve fallen, and I can’t get up
Conclusions first: 44 pt bold
Always put the most important part - your conclusions - first! Place your conclusions in the upper left-hand corner of your poster. Prepare your material from the reader’s perspective. What was done, by who and your conclusion has to be understood within a couple of seconds' reading! Use active voice when writing the text. 

Introduction
Posters are primary visual presentations. Your poster should be dominated by self-explanatory illustrations such as graphs and pictures while the amount of text should be kept to the minimum.

Your aim
Your poster is an advertisement for your research and as such it needs to be eye-catching and straight to the point. You only have seconds, or at best a few minutes to attract the attention of the visitor to a poster session. Keep your message short and clear.

Your message
Keep your message clear and your text concise. Decide what is relevant for this poster and try to get your message across to your target group.

Layout, photos and print
Contact Mediacorps at University Library for help with layout and image enhancement. For printouts and professional photographers contact Mediacorps. For more information: www.mediacorps.slu.se

Tips:
The best font for text blocks that are as short as they should be on a poster is a Sans Serif font like Arial or Munsro. Sans rather than script fonts like Times or Courier. AVOID CAPITAL LETTERS IN TEXTS THAT ARE LONGER THAN ONE LINE, SINCE THEY ARE MORE DIFFICULT TO READ.

Handouts
If you succeed in getting the reader's attention, provide him/her with more detailed information in the form of handouts or printed articles. Include references on your handout instead of your poster.

It is always nice to put in a picture and write some few short notes of what’s going on in the future. Put handouts, business cards, nearby - on a table or in an envelope hung with the poster.
Welcome to the 80’s
Fer sure!
Helpful sites on poster presentations:

http://colinpurrington.com/tips/academic/posterdesign

http://www.ncsu.edu/project/posters/NewSite/
LiLynn Graves
Web and Graphic Designer, CCMR