



# Leveraging Student Involvement

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# About GCU

- Located in Phoenix AZ
- 25,000+ traditional students & 90,000+ online
- Environmental Program
- Many other programs with capstone courses
  - Environmental Science
  - Biology
  - Engineering
  - Technology
  - Public Health



# Environmental, Health & Safety

- Supporting employee and student safety on campus
- Environmental Programs
  - Air
  - Exposure monitoring
  - Haz waste
  - Water
- Health & Safety – many programs
- Education & Outreach



# Volunteering Guidelines



- Courses with required volunteer hours:
  - Env-305: Environmental Management and Sustainability (30 hrs)
  - Bio-479: Field Research (100 hrs)
- Expectations:
  - Essential work (not busy work)
  - Student initiated
- Students have connected with Game & Fish, USDA, ADEQ and others



# Unique Student Perspective

- Strive to make a difference
- Embrace technology
- Good communicators



# Leveraging Student Involvement

## Student Benefits

- Applying academic lessons
- Discovering areas of interest
- Learning practical skills
- Networking with professionals

## Organizational Benefits

- Renewal of big picture
- Fresh perspective on typical problems
- Additional manpower for problem-solving



# Setting up the Program

- Interview
- Mentoring sessions
- Project Assignment
- Student tasks
  - Research background/ develop Scope of Work
  - Interview/coordinate with key personnel
  - Complete fieldwork assessment
  - Identify solutions and evaluate costs/benefits
  - Present final project summary



# Past and Current Projects

- Current
  - Hazardous waste review – identify areas to reduce generation
  - Stormwater feature assessment
  - Mock-phase I assessment
  - Drywell flow measurement
- Past
  - Turf assessment
  - Paint booth
  - Pigeon management





# Project Pesky Pigeon

Created and Presented by: Matthew Meyer



# Pigeons



**Feathered Friends or Pooping Problems?**

# A Closer Look

- Very few natural predators
- Mate for life
  - Will return to nesting sites
- Congregate in high numbers
  - Flock sizes range from 8-100 birds
- Poop causes a variety of issues
  - Average pigeon will poop up to 30 times a day





# Negative Consequences

- Unsightly
  - Off-putting toward prospective students and investors
- Stains buildings
  - Corrodes buildings, visible stains after cleaning
- Health issues
  - Histoplasmosis, Cryptococcosis, and Psittacosis are all respiratory diseases that stem from pigeon poop

# It Can't Be that Bad, Right?



# Juniper Hall – Building 84



# Technology – Building 57



# Saguaro Hall – Building 46



# Diamondback – Building 50



# Arena – Building 38



# Why Are They Here?



Food



Water



Shelter



# What are We Doing About It?



Netting



Mesh



Wire



Spikes



Traps



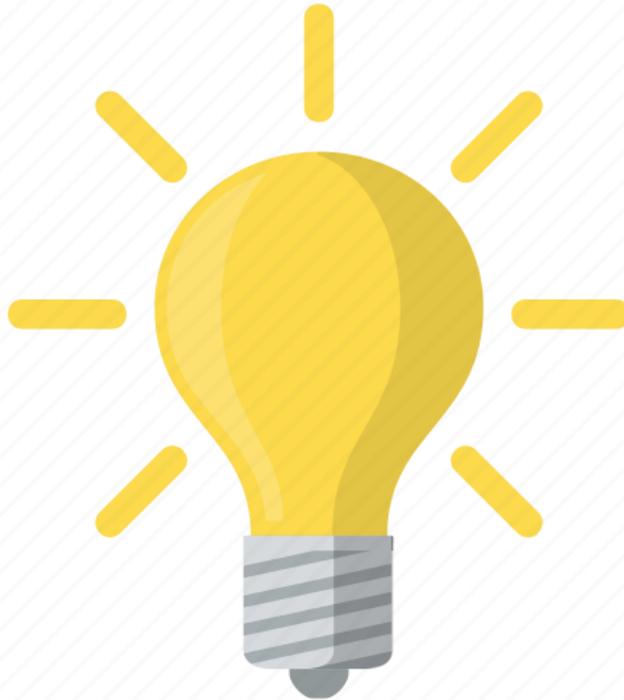
Cats

# Potential Solutions

Pest  
Management  
Consulting

EMP System

Falconry





# Pest Management Consulting

- Use of pest management consultants during building development
- Identifies and removes perching/nesting spots in new developments
  - Solves problems before they start
- Cheaper than attempting to fix the issue after development



# Electromagnetic Pulse (EMP) Systems

- Disrupts pigeon's ability to navigate and deters them from approaching
  - Method has statistical support from University of Arizona
- Developed locally
  - Flock Off (Tucson, AZ)
- Electromagnetic Compatibility (EMC) Certification





# Falconry

- Use of predatory birds to hunt pigeon and establish predation zones
- Pigeons learn to avoid predation areas
- Predation needs to be constant
  - At the minimum once every 2 weeks
- Used commercially at hotels, resorts, and airports



# Cost Analysis

**Current  
Options**



**New  
Options**



# Our Current Options

\$3,000 Per power wash/clean up projects

\$5,000 per pigeon proofed roof

An untold amount in parts and labor

Totaling up to \$52,000 in the past few years



# The New Options



**PESTECH**

## Consulting

- Pricing varies based on several factors
- Development, labor hours, individual experience



## EMP System

- \$5,100 per unit without labor
- 2 units needed for a building like Ocotillo Hall



## Falconers

- Pricing based on number of birds and trainers needed
- Average is \$65 an hour or \$1,000 per day

# Campus Engagement



## Signage

- Place signs that prohibit the feeding of birds
- QR codes could be added to explain the issue



## Hotline/Report Network

- Encourage reporting pigeon related issues
- Promote the system for students to report issues



## Waste Management

- Offer volunteer work for campus clean up projects
- Reduce the quantity of disposable products

# Questions?



# Want to get Involved?

**GRAND CANYON  
UNIVERSITY**



**Connect with GCU's Student Talent**





**Thank you!**

