Logistics

Lab tomorrow:
• Meet in Holdsworth 312B

Extra help hours:
• Friday (2/20) 10-4:30 in Morrill 212
• Monday (2/23) 5-7 in Holdsworth 302
• Tuesday (2/24) 5:15-7 in Holdsworth 302
Final project examples

Fig. 10

Wentworth Farm Conservation

- Water: 7%
- Pasture: 50%
- Forest: 24%
- Wetland: 2%
- Non-Forested Wetland: 6%
- Residential: 3%
- Open Land: 1%

Fig. 11

Markerts Pond Conservation

- Water: 22%
- Residential: 20%
- Forest: 58%

Fig. 12

Fig. 13

Fig. 14
Final project examples

Figure 8: Vulnerability calculation relative to infrastructure and demographics
Final project examples
Tip of the day: Intersect
Reminder – Clip & Erase

**Clip** keeps the info inside the shape

**Erase** keeps the info outside the shape
Tip of the day: Intersect

**Intersect** is like a clip (you end up with the inside), except you retain the information from **BOTH** shapefiles.
Tip of the day: Intersect

What is the total length of major roads in Amherst?
Tip of the day: Intersect

What is the total length of major roads in all MA towns?
Tip of the day: Intersect

What is the total length of major roads in all MA towns?

Roads attribute table BEFORE
Tip of the day: Intersect

What is the total length of major roads in all MA towns?

Towns attribute table BEFORE
Tip of the day: Intersect

What is the total length of major roads in all MA towns?

Intersected attribute table AFTER
Tip of the day: Intersect

What is the total length of major roads in all MA towns?

Roads are symbolized with different colors for each town.
Tip of the day: Intersect

What is the total length of major roads in all MA towns?

You will end up with more features than you started with.
Tip of the day: Intersect

What is the total length of major roads in all MA towns?

How do we find total road length for all the towns?
Review: Why the summarize tool is awesome
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At a minimum, summarize will count the total number of features that share the field that you are summarizing.

But, it will also calculate total length or area for all of the common fields.
Review: Why the summarize tool is awesome

**Count_TOWN:**
Total number of major road segments in that town.

**Sum_length_km:**
Sum of the lengths of all major roads in that town.
One further application

Join the summary table back to the towns polygon (both have the common attribute of TOWN)

This will bring the attribute of total road length into your polygon shapefile of roads
One further application
Review: Selection options

Towns with > 50 km of roads in Middlesex County
Review: Selection options

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Towns with > 50 km of roads in Middlesex County

Selection Options:
• New selection
• Add to selection
• Remove from selection
• Select from selection

Note: ArcMap defaults to use the selected features
Review: Selection options

Towns with > 50 km of roads
Review: Selection options

Towns with > 50 km of roads in Middlesex County
Review: Selection options

One warning:
ArcMap will remember your previous choice in the selection method

If you are trying to create a new selection and nothing happens, check there first

Only works if you already have something selected
Review: Selection vs. Clipping

What is the total length of all roads within 2 km of the dead bird?
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Road segments outside of 2 km: length will be over-estimated
Review: Selection vs. Clipping

What is the total length of all roads within 2 km of the dead bird?

Road segments outside of 2 km: length will be over-estimated.
Review: Selection vs. Clipping

What is the total length of all roads within 2 km of the dead bird?
Review: Selection vs. Clipping

What is the total length of all roads within 2 km of the dead bird?

How do we calculate length of the clipped roads?
Review: Selection vs. Clipping

How many roads are within 2 km of the dead bird?

What are the names of the roads within 2 km of the dead bird?
Review: Selection vs. Clipping

**Selection tools** can answer the questions:

How many features are within, within a distance of etc.
What are the attributes of features within

**Geoprocessing tools** (clip, erase, intersect etc.) are needed to answer the questions:

What is the total area within, within a (buffered) distance
What is the total length within
Exam Info

• 1/3 short answer questions (based on lectures)
• 2/3 practical questions (based on labs)

• *Reminder*: Make a cheat sheet! You can use both sides of a standard piece of paper.

• Practice exam is on the same site where you download your labs (link on the course website)

• You will have the full lab period to work on the exam, make sure to arrive on time

• You will **not** need your USB drive
Interesting Map of the Day
Map Exercise

• What sorts of cartographic choices went into creating your map?
• What do you think was the main goal that the cartographer was trying to convey?
• Would your map be effective for analysis purposes? Why or why not?