

# BeeMapper: a web tool for grower assessment of wild bee habitat

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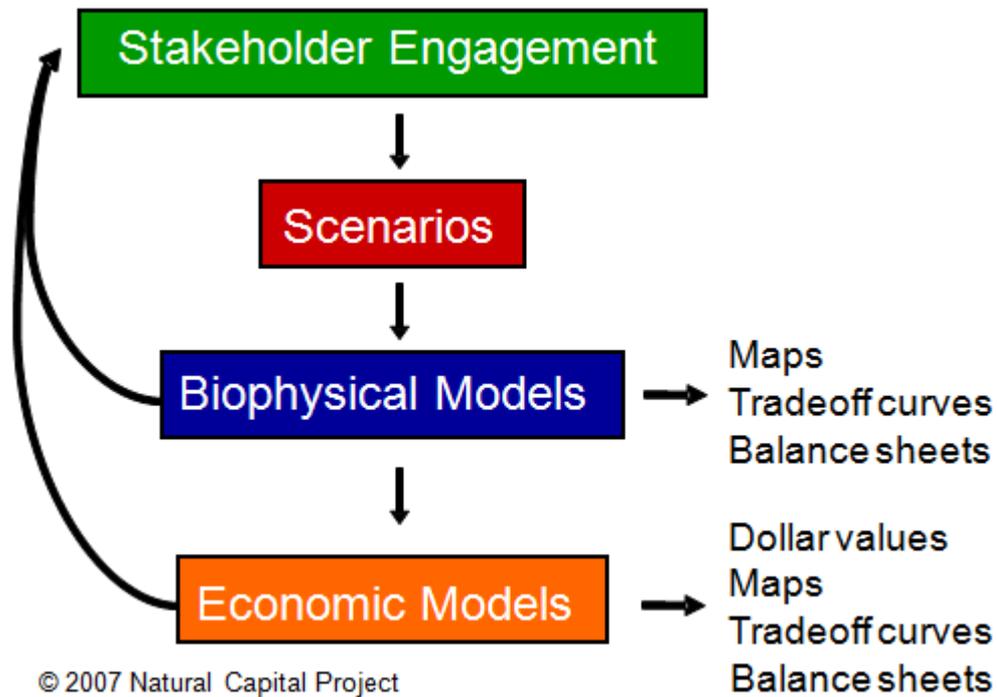
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# BeeMapper basics

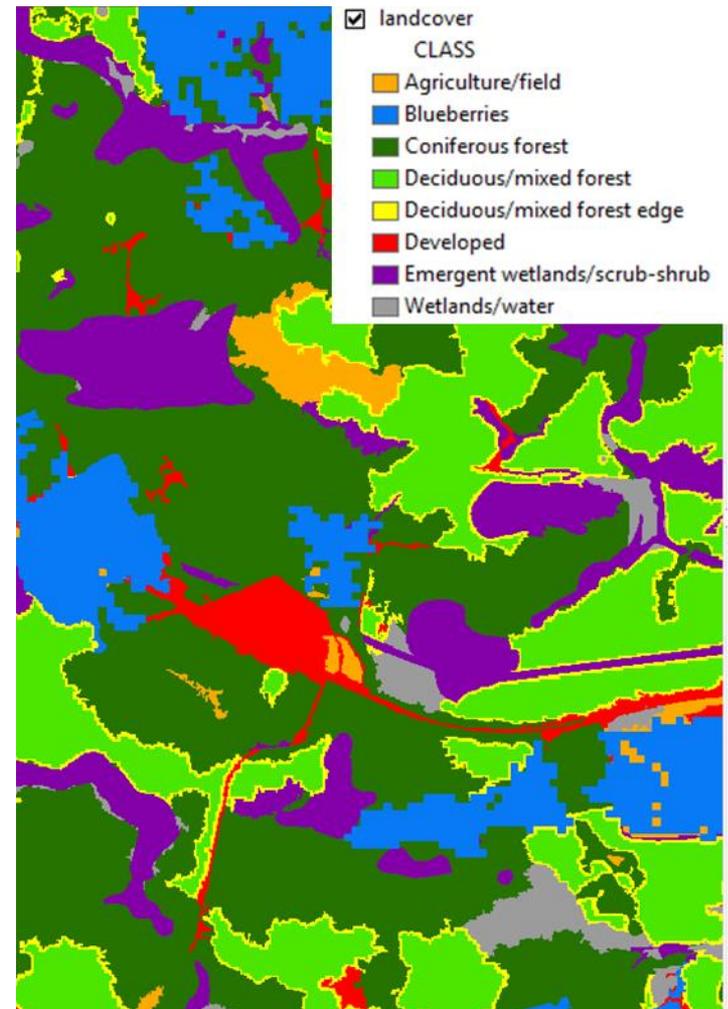
- Aim: to help growers assess wild bee habitat around their wild blueberry fields
- Target audience: Maine wild blueberry growers
- Features:
  - Maps
    - Land cover
    - Predicted wild bee abundance
    - Navigational aids
  - User's guide
  - Links for further reading

# InVEST Model Suite



# InVEST Crop Pollination Model

- Input:
  - Land cover data



# InVEST Crop Pollination Model

- Input:
  - Land cover data
  - Suitability values

Table 3. Average ( $\pm$  standard deviation) scaled landcover suitability values assigned through expert opinion.

Landcover	Ground nesting	Cavity nesting	Spring forage	Early Summer forage	Late Summer forage
<i>Deciduous/mixed forest, edge</i>	0.9(0.17)	1.0(0.19)	0.9(0.24)	0.9(0.24)	1.0(0.22)
<i>Developed/other</i>	0.9(0.25)	0.6(0.30)	1.0(0.27)	0.9(0.26)	1.0(0.22)
<i>Coniferous forest</i>	0.5(0.23)	0.6(0.28)	0.1(0.24)	0.1(0.21)	0.1(0.29)
<i>Deciduous forest/mixed forest</i>	0.6(0.21)	0.9(0.22)	0.7(0.21)	0.5(0.29)	0.4(0.18)
<i>Emergent wetlands/scrub-shrub</i>	0.2(0.14)	0.4(0.24)	0.7(0.22)	0.6(0.25)	0.6(0.20)
<i>Wetlands/water</i>	0.1(0)	0.1(0.05)	0.3(0.20)	0.2(0.16)	0.5(0.18)
<i>Agriculture/field</i>	0.7(0.29)	0.2(0.18)	0.9(0.31)	0.7(0.27)	0.9(0.33)
<i>Blueberries</i>	1.0(0.25)	0.4(0.26)	0.4(0.29)	1.0(0.28)	0.5(0.26)

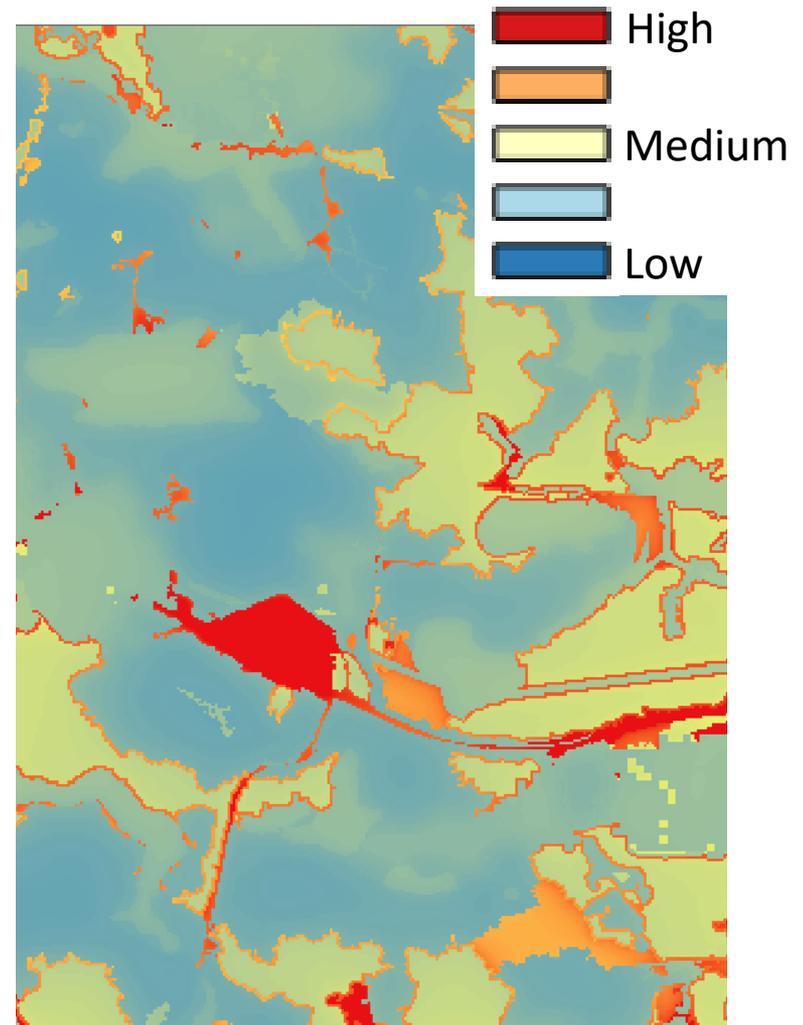
# InVEST Crop Pollination Model

- Input:
  - Land cover data
  - Suitability values
  - Bee species life history



# InVEST Crop Pollination Model

- Input:
  - Land cover data
  - Suitability values
  - Bee species life history
- Output: predicted wild bee abundance



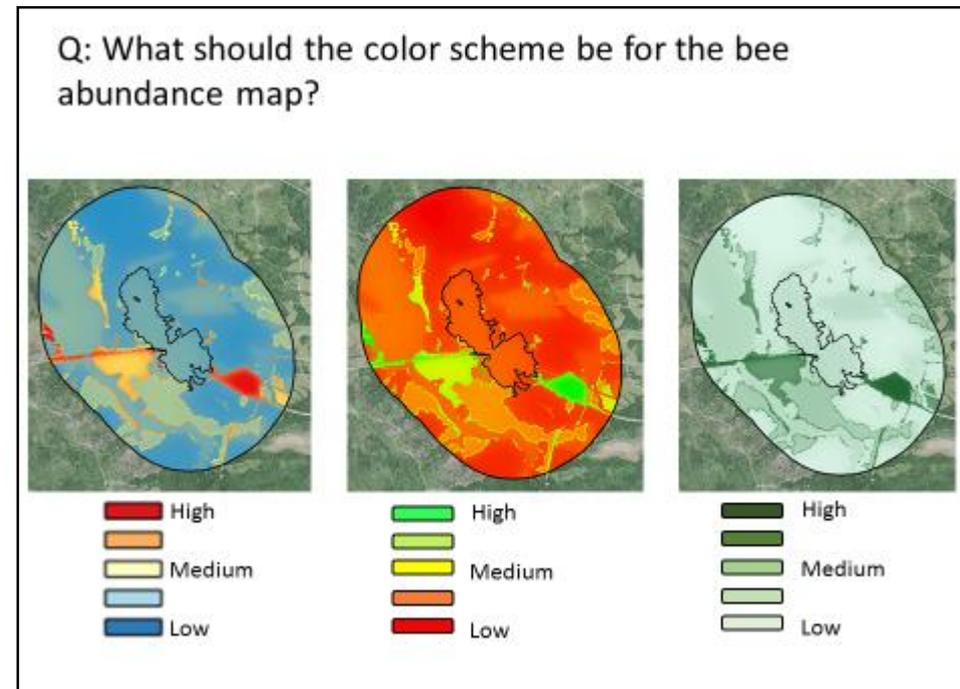
# Tool demonstration

- Technical support provided by the Faculty Development Center
- <http://130.111.20.140/>

# Participatory process

- 1<sup>st</sup> iteration: Small group presentation

- Wild Blueberry Commission Advisory Board, Nov. 2014
- Feedback:
  - more navigational aids
  - simple information
  - shaded color abundance map



- 2<sup>nd</sup> iteration: Booth at a large meeting
  - Spring Growers Meeting, March 2015

# What's left to do:

- 3<sup>rd</sup> iteration: Six 1:1 sessions
  - Growers using a variety of management practices, March 2015
- 4<sup>th</sup> iteration: Large group presentation
  - Regional Spring field training sessions, April 2015
- Final presentation:
  - Wild Blueberry Field Day, July 2015

# Future directions

- End results? Summarization for printing?
- Data development
  - Midcoast coverage
  - Inform InVEST with field data
- Scenario building

# Acknowledgments

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