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 format\_version: 0.17.2 <!--0.13-->  
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editor\_options:   
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(i\_study\_area)=  
# {{ title\_i\_study\_area }}  
<!--  
:::{hint}  
replace me with text  
:::  
-->  
\*\*{{ term\_study\_area }}\*\*: {{ term\_def\_study\_area }}

:::::::{tab-set}

::::::{tab-item} Overview  
A {{ study\_area\_tl }} is a unique area(s) within a {{ project\_tl }}. There may be multiple {{ study\_area\_tl\_pl }} within a larger {{ study\_area\_tl }}. Aspects to consider when identifying the {{ study\_area\_tl }} include the spatial extent (and method of delineation), shape ({{ rtxt\_foster\_harmsen\_2012 }}), and composition and configuration of features within it (including habitat types, land uses and disturbances).  
Several factors influence the size (spatial extent) of the study area, including the {{ survey\_tl\_objectives\_abrv }}, ecosystem, the biology of the {{ target\_species\_tu }} (e.g., dispersal ability, habitat preferences, etc.) and/or {{ mod\_approach\_tl }}.  
For example, {{ obj\_density\_tl }} models using the [capture-recapture (CR)](#mod\_cr\_cmr) {{ mod\_approach\_tl }} requires that the {{ study\_area\_tl }} encompasses the entire area in which individuals can move during the {{ survey\_tl }} and that each individual can be detected by a camera ({{ rtxt\_karanth\_nichols\_1998 }}). In this case, the animal’s home range size could be used (e.g., four times the home range size [{{ rtxt\_maffei\_noss\_2008 }}]) ({{ rtxt\_wearn\_gloverkapfer\_2017 }}) in combination with a finite number of cameras available (e.g., 20 cameras are available; ideally, they should be [paired](#sampledesign\_paired) and there should be \> 4 cameras in each home range [{{ rtxt\_wearn\_gloverkapfer\_2017 }}]) to define the {{ project\_tl }}’s spatial extent.  
Methods to delineate the appropriate spatial extent include, for example, minimum convex polygons (i.e., a polygon surrounding the locations of previous detections) or [kernel density estimators](#kernel\_density\_estimator) (e.g., via the probability of “utilization” \[{{ rtxt\_jennrich\_turner\_1969 }}\]). Geographic Information Systems (GIS, e.g., ESRI software) or programming languages (e.g., R) contain useful tools for these delineation methods.  
::::::

::::::{tab-item} In-depth  
```{include} include/00\_coming\_soon.md  
```  
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::::::{tab-item} Visual resources

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::::::{tab-item} Shiny apps/Widgets  
Check back in the future!  
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:::::{tab-item} Analytical tools & Resources  
| Type | Name | Note | URL |Reference |  
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