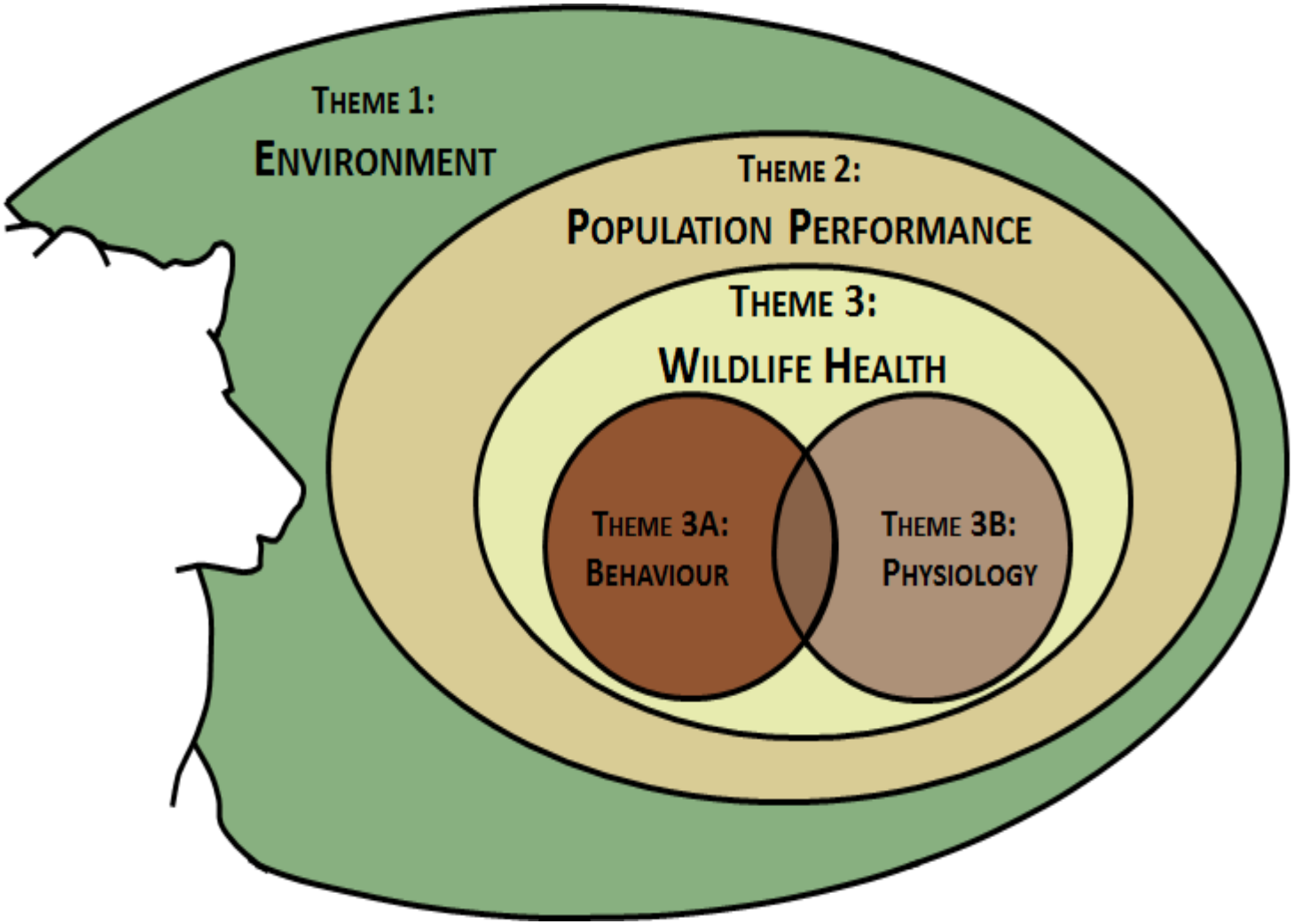
Grizzly bear food-supply in post-harvests and post-fire stands

Presented by
Chris Souliere

NSERC CRSNG



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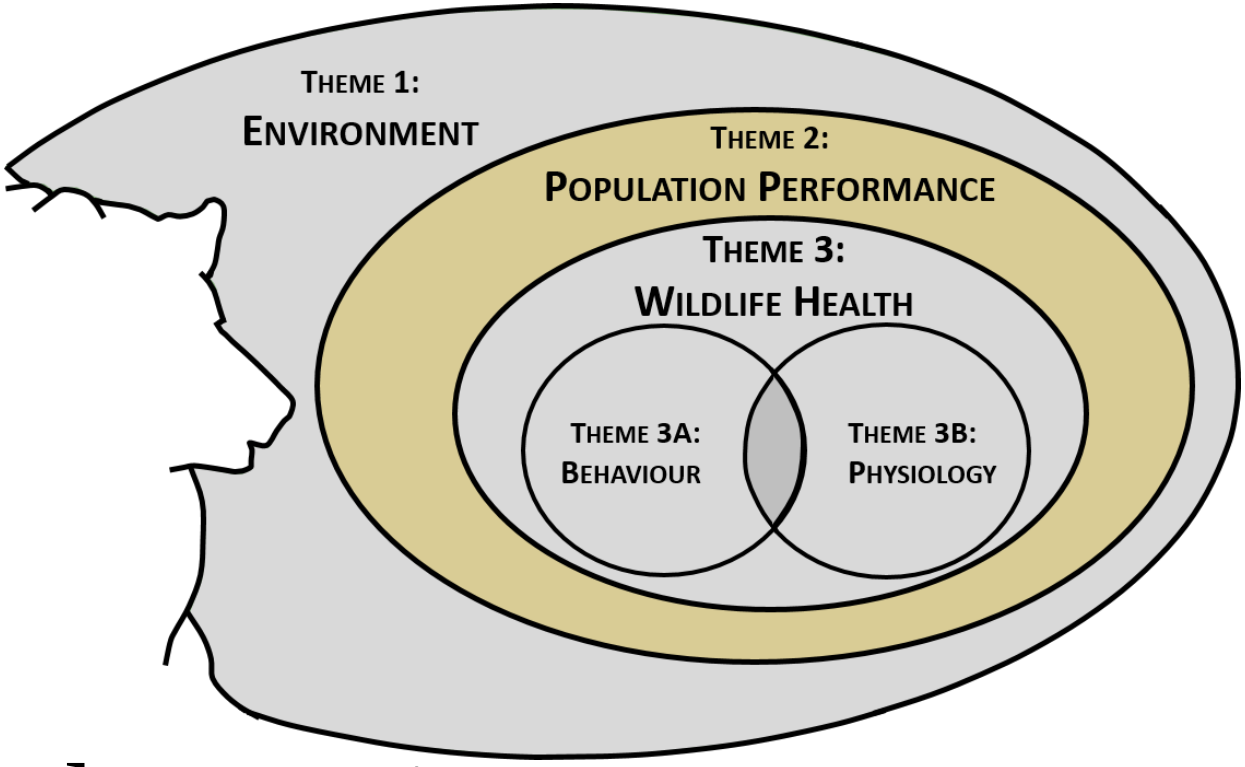
Population Performance



Research question

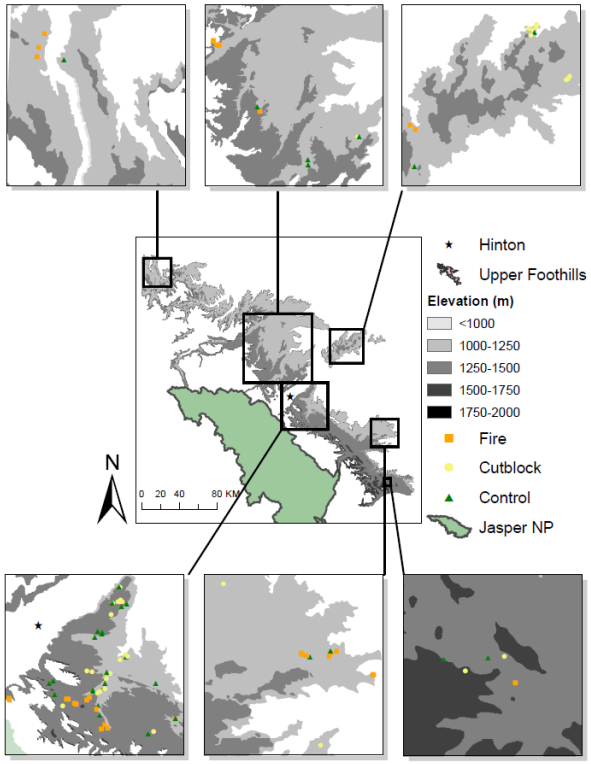
Q2.2. How does food supply change as a function of landscape change and how can this directly be incorporated into forest harvest planning?

How does food supply change as a function of landscape change: **Fire and Forest Harvests**

- Forestry a dominant contributor
- Bears frequent both post-fire and post-harvests stands
- Limited supply of open habitats
- Better understanding and management
- Forest harvests as surrogate to forest fires

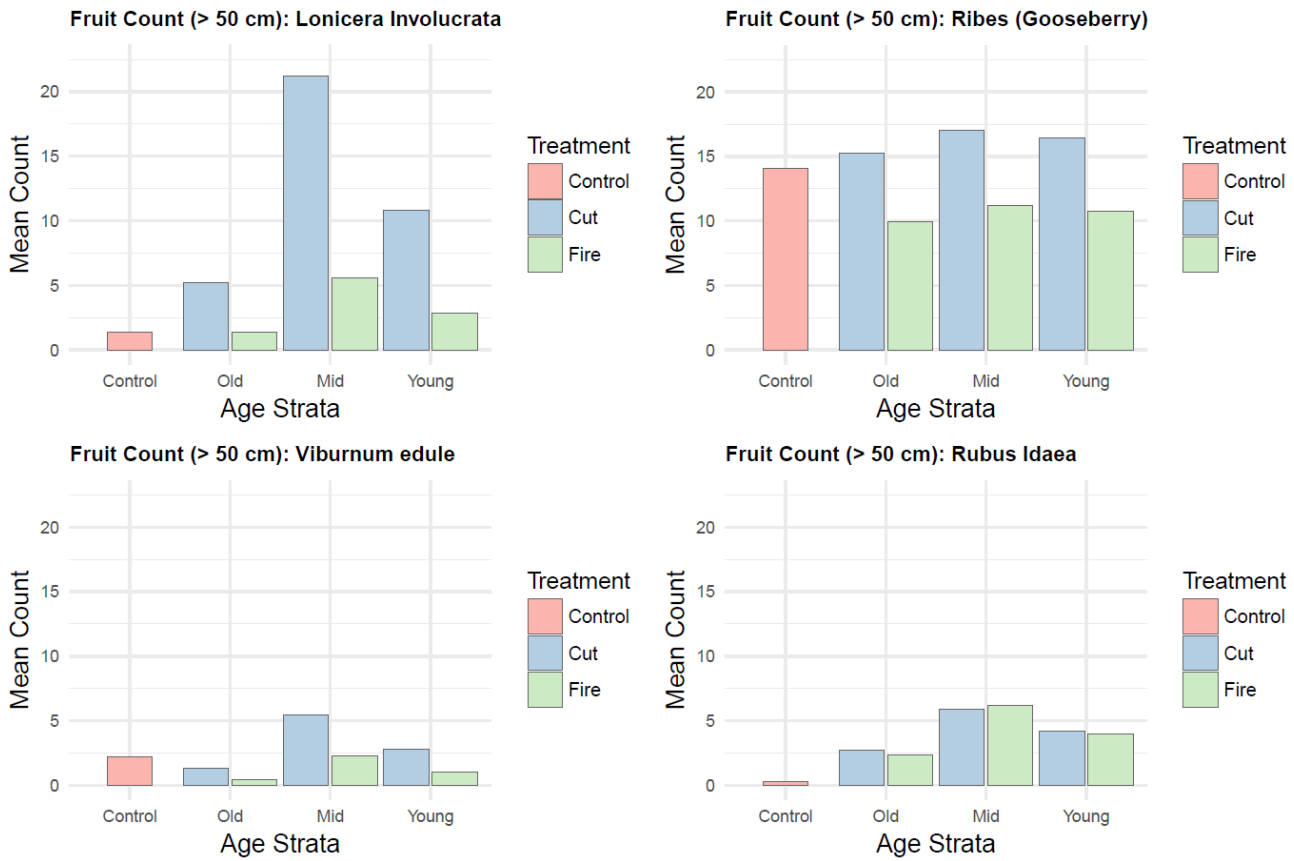
How does food supply change as a function of landscape change: **Field Sampling**

- Bear Management Areas 2 and 3
- Fire vs. Forest harvests
- Three Age-Classes (~ 5, 20, and 60 years)
- Vegetative Sampling
- Transects



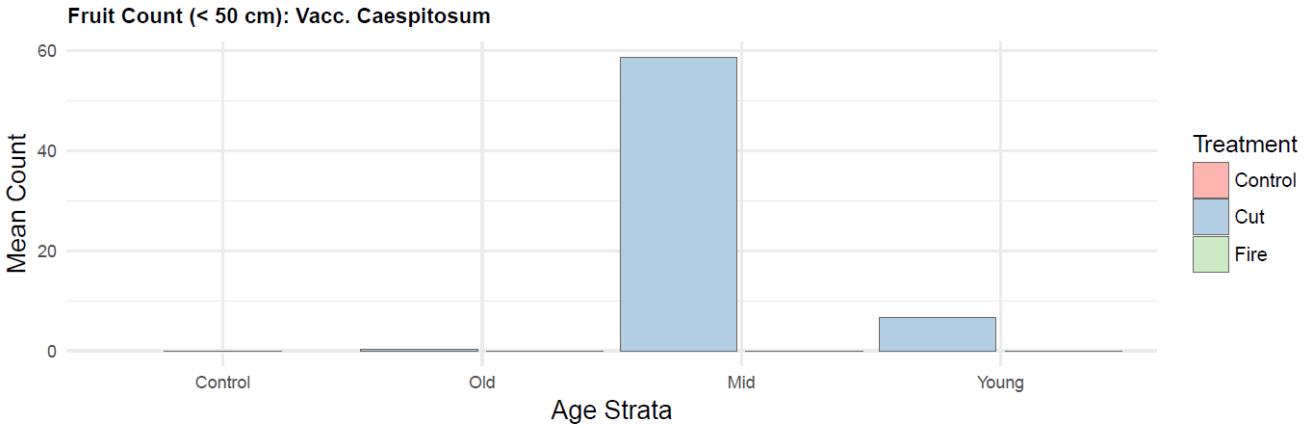
How does food supply change as a function of landscape change: **Fruit Productivity**

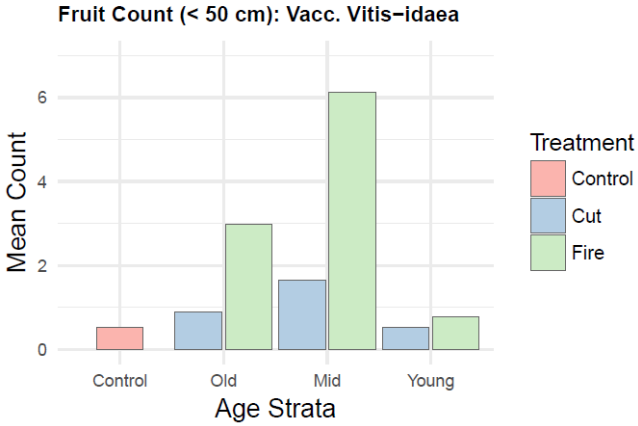
- Fruit count models (shrubs **≥ 50 cm)**

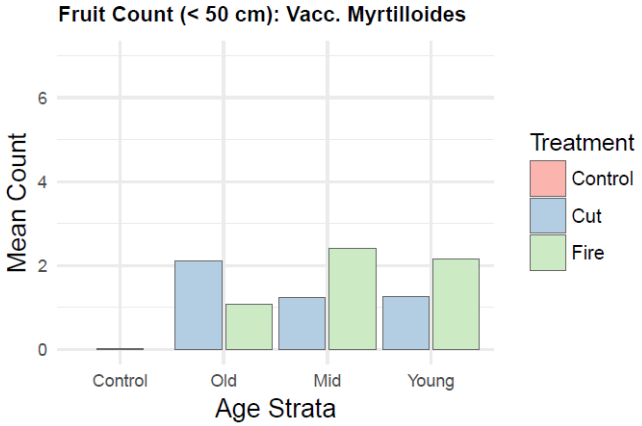


How does food supply change as a function of landscape change: **Fruit Productivity**

- Fruit count models (shrubs < **50 cm)**

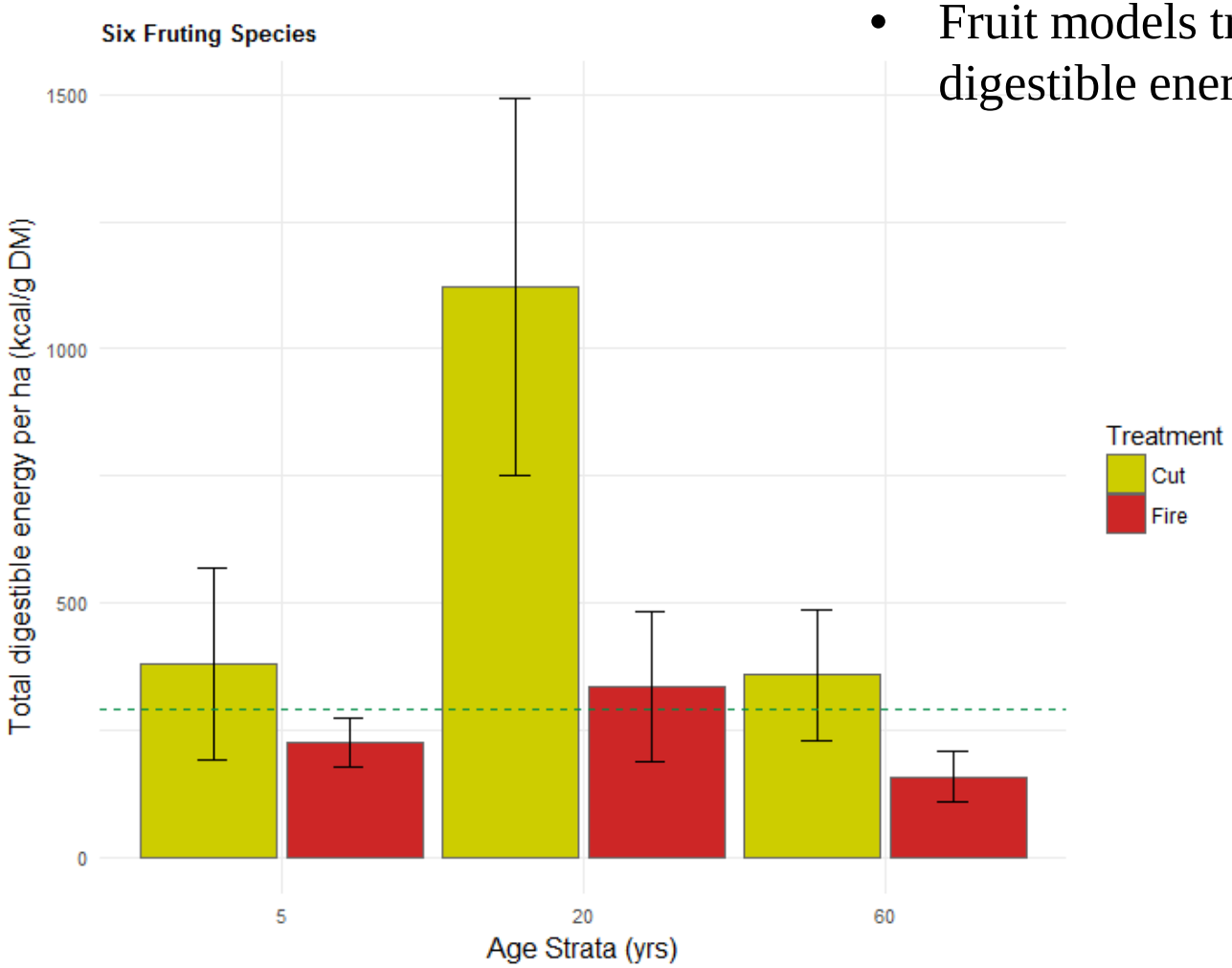






How does food supply change as a function of landscape change: **Digestible Energy**

- Fruit models translated into digestible energy



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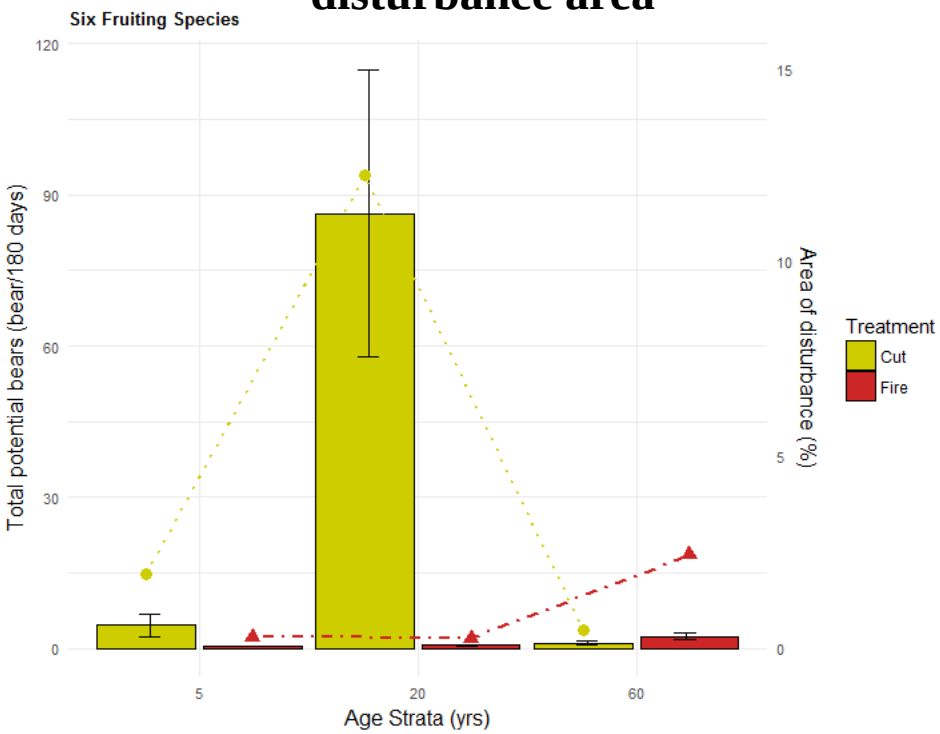
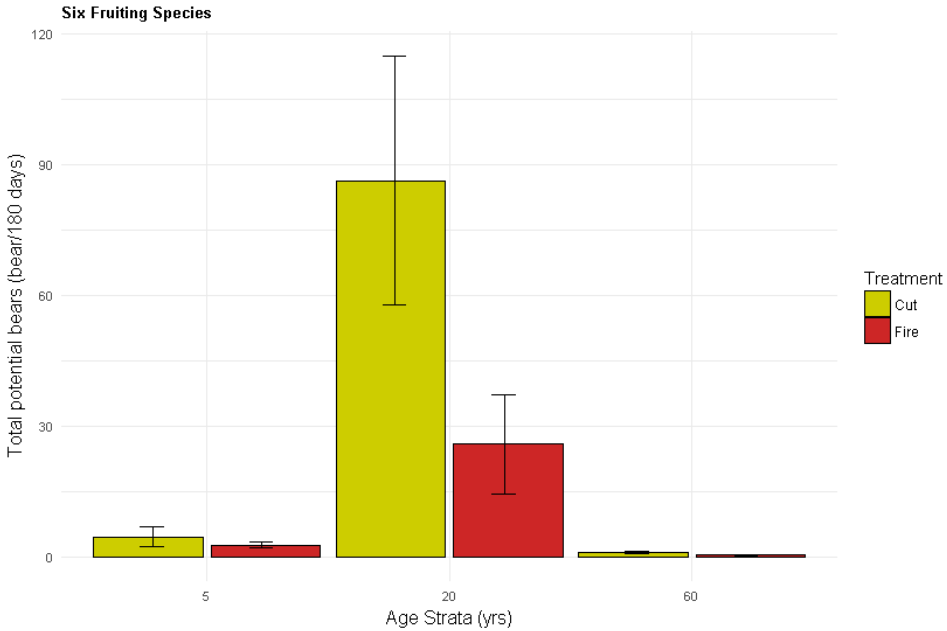
How does food supply change as a function of landscape change: **Translated into Potential Bears**

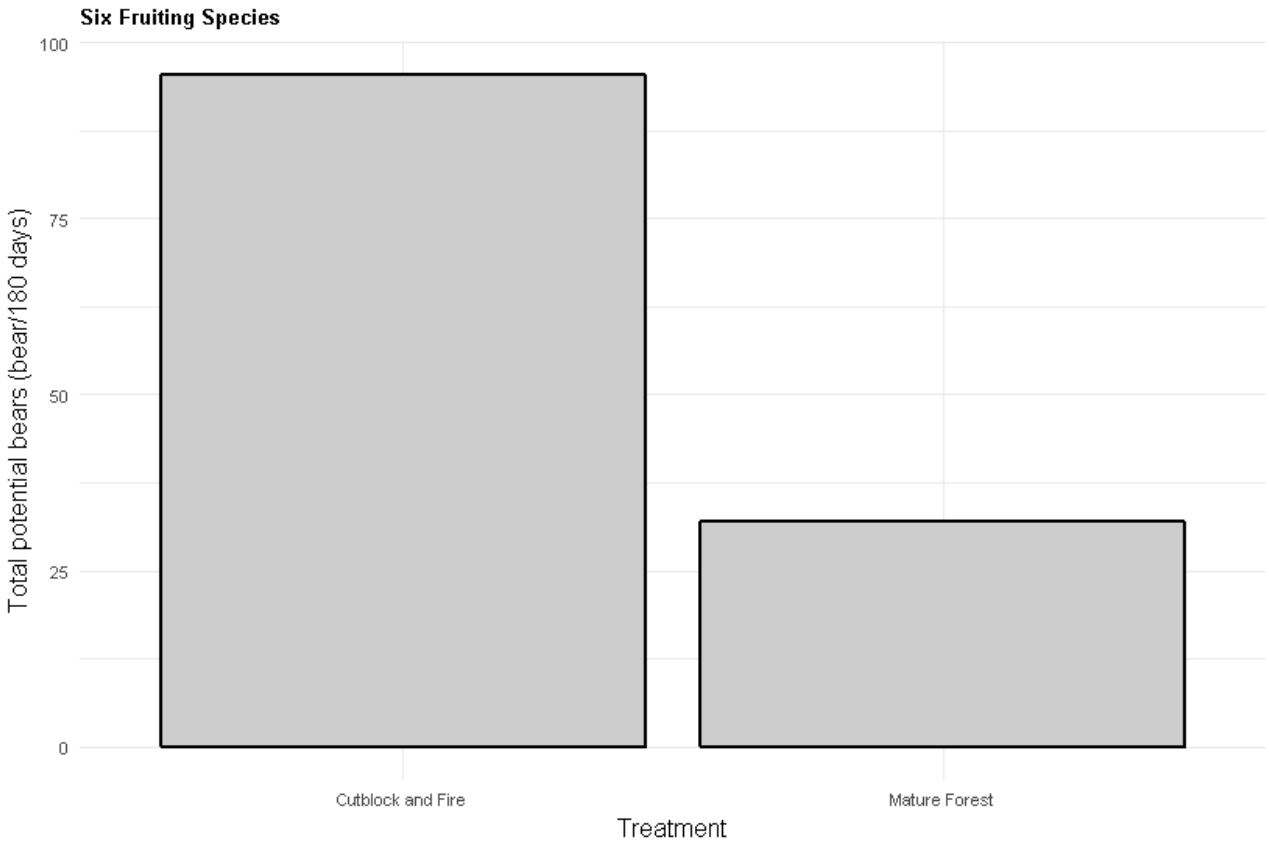
Adjusted for actual disturbance area



Comparison between equal-sized disturbance area



How does food supply change as a function of landscape change: **Translated into Potential Bears**



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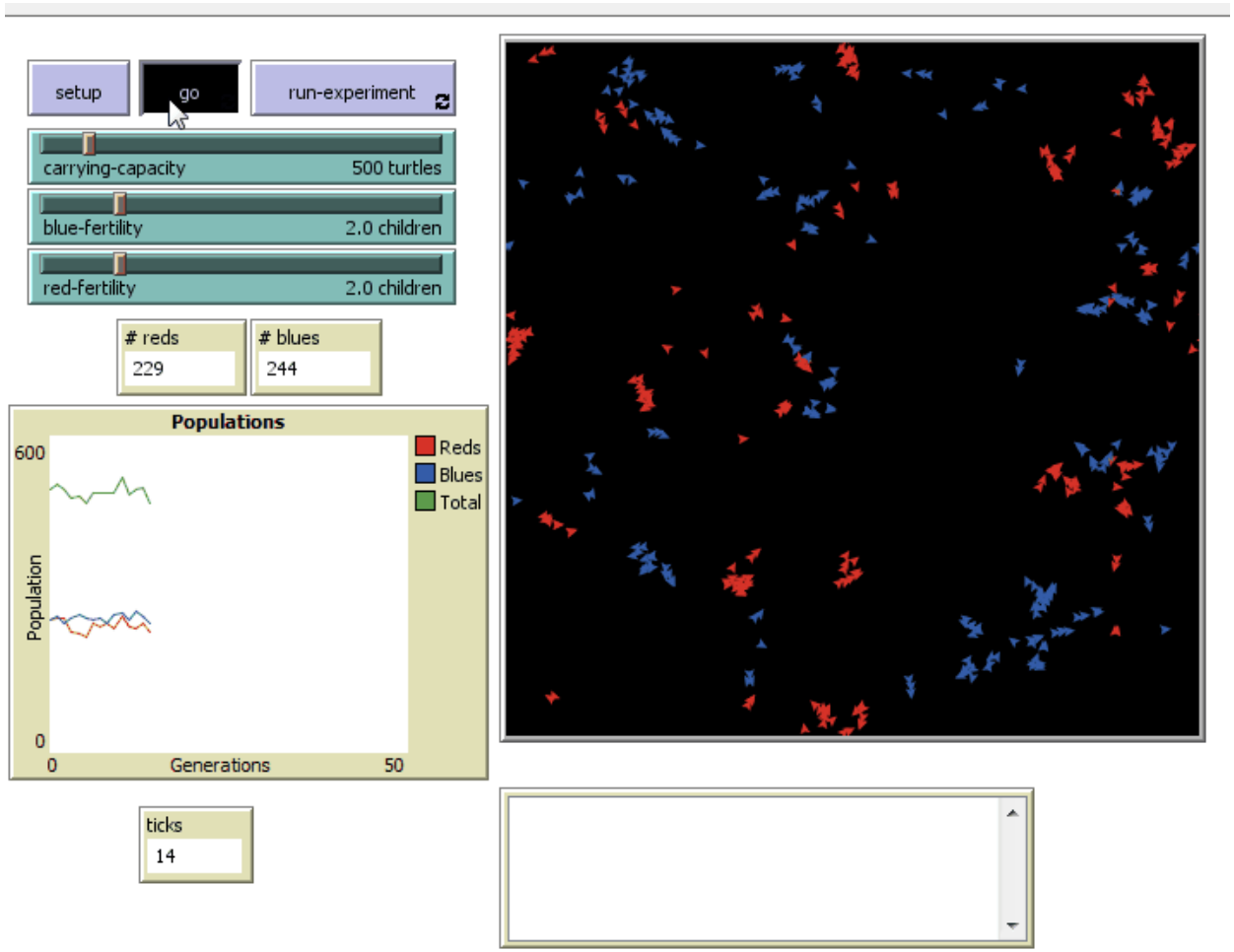
How does food supply change as a function of landscape change: **Individual-Based Models**



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Population Performance

How can this directly be incorporated into forest harvest planning: **Optimization Analyses**

- Landscape and forestry operations
- Integrate food models with forestry tools
- Multi-optimization analyses (timber and bears)

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= Improve sustainability of bear habitat and timber supply

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