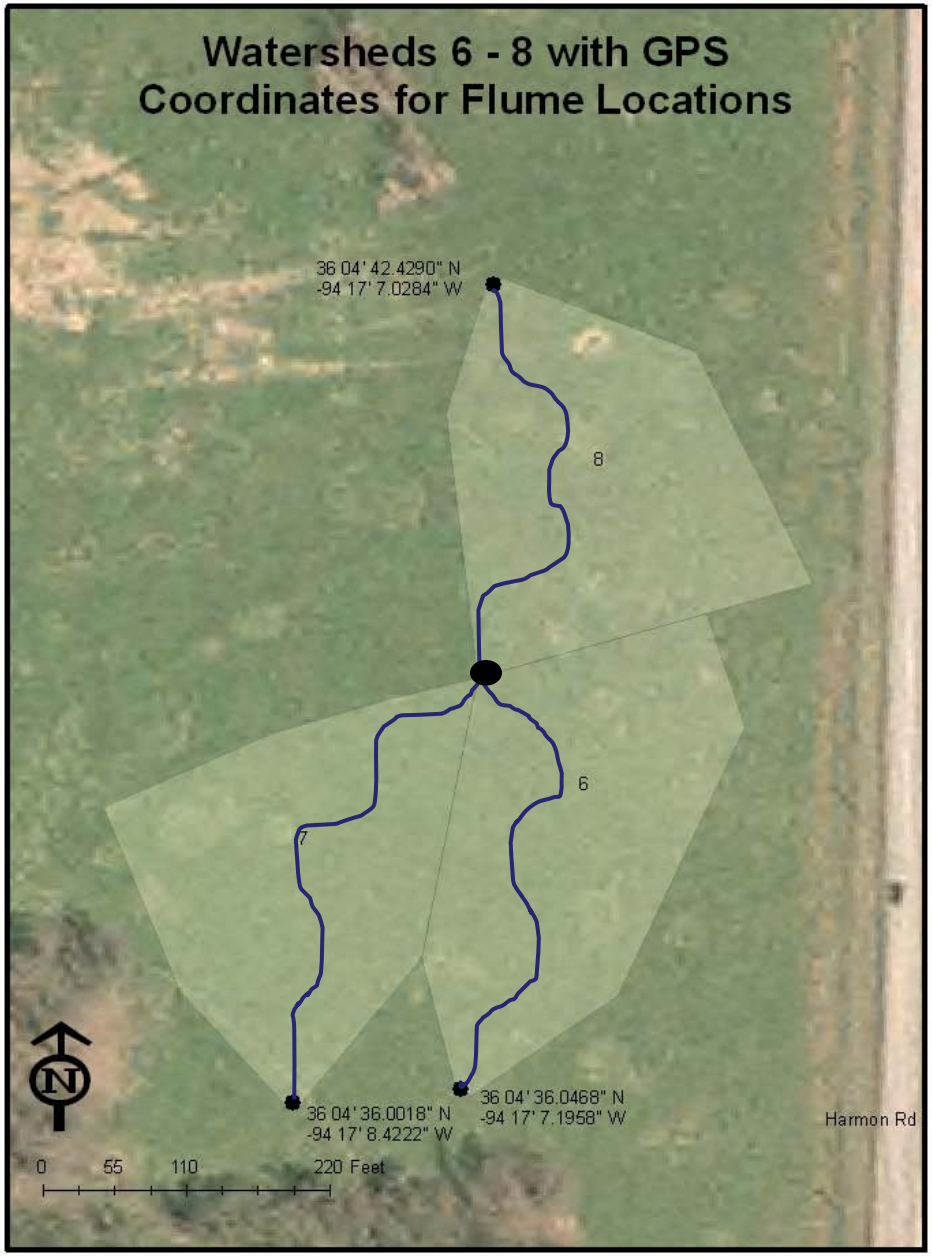
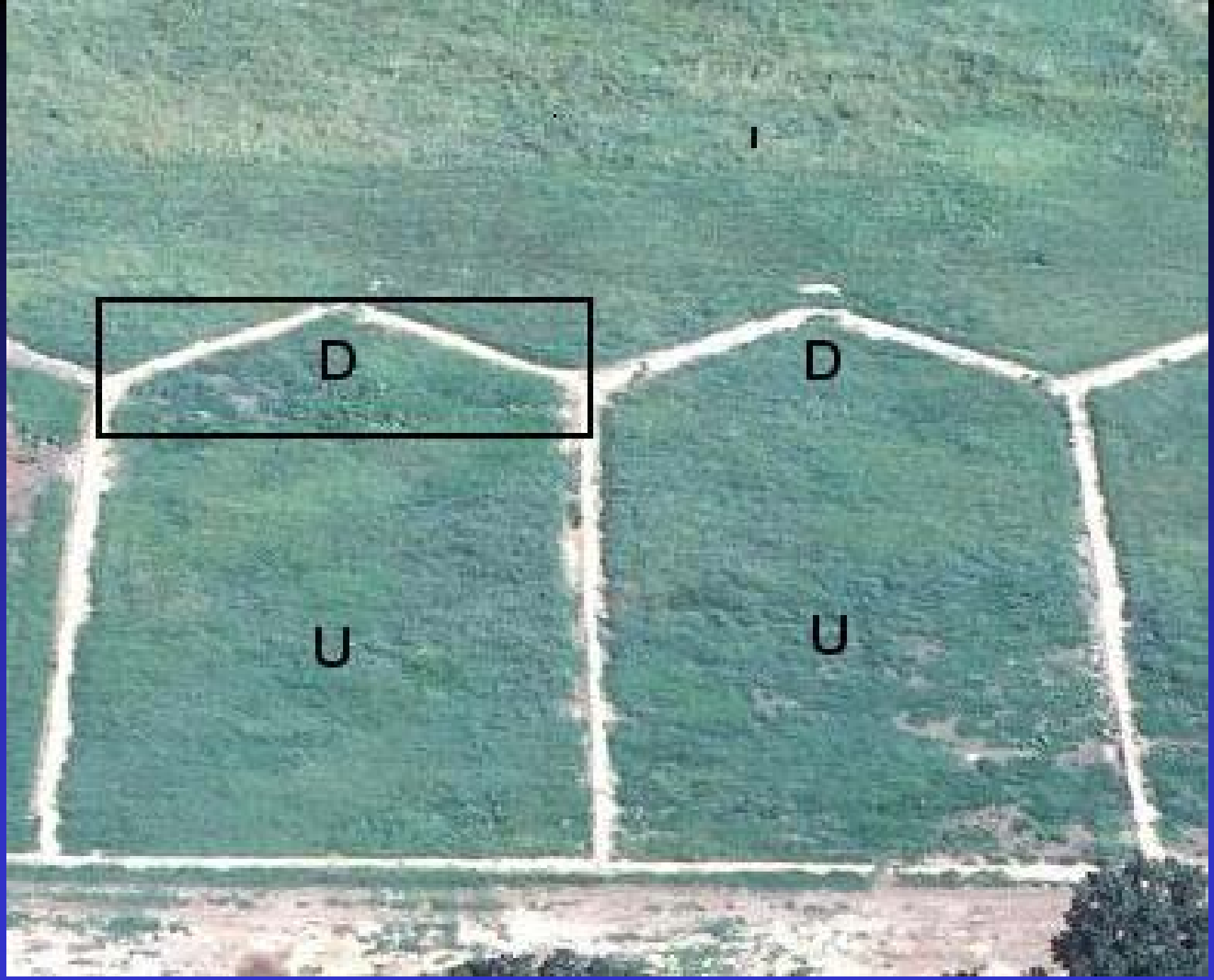
# Task 9: BMP Effectiveness Monitoring

Objective: Monitor implementation of manure/compost BMPs through collection of water runoff using automatic water samplers, soil samples within fields, soil samples within buffer zones, down-gradient soil samples, manure samples, and water well samples.

Task 9.2: ….install automatic water samplers to collect runoff from the control and treatment plots. Water samples will be analyzed for nutrients and bacteria…


Watersheds 6 - 8 with GPS Coordinates for Flume Locations
36 04' 42.4290" N
-94 17' 7.0284" W
8
6
7
36 04' 36.0018" N
-94 17' 8.4222" W
36 04' 36.0468" N
-94 17' 7.1958" W
Harmon Rd
N
0
55
110
220 Feet


D
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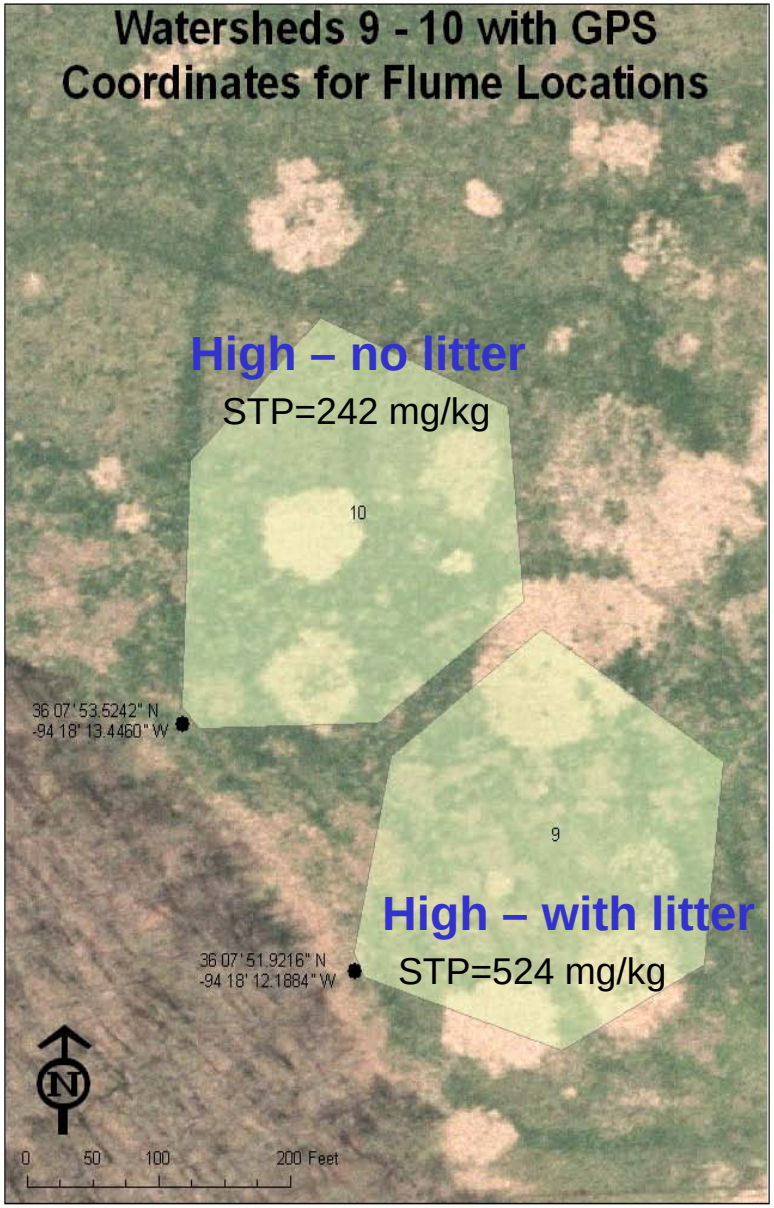
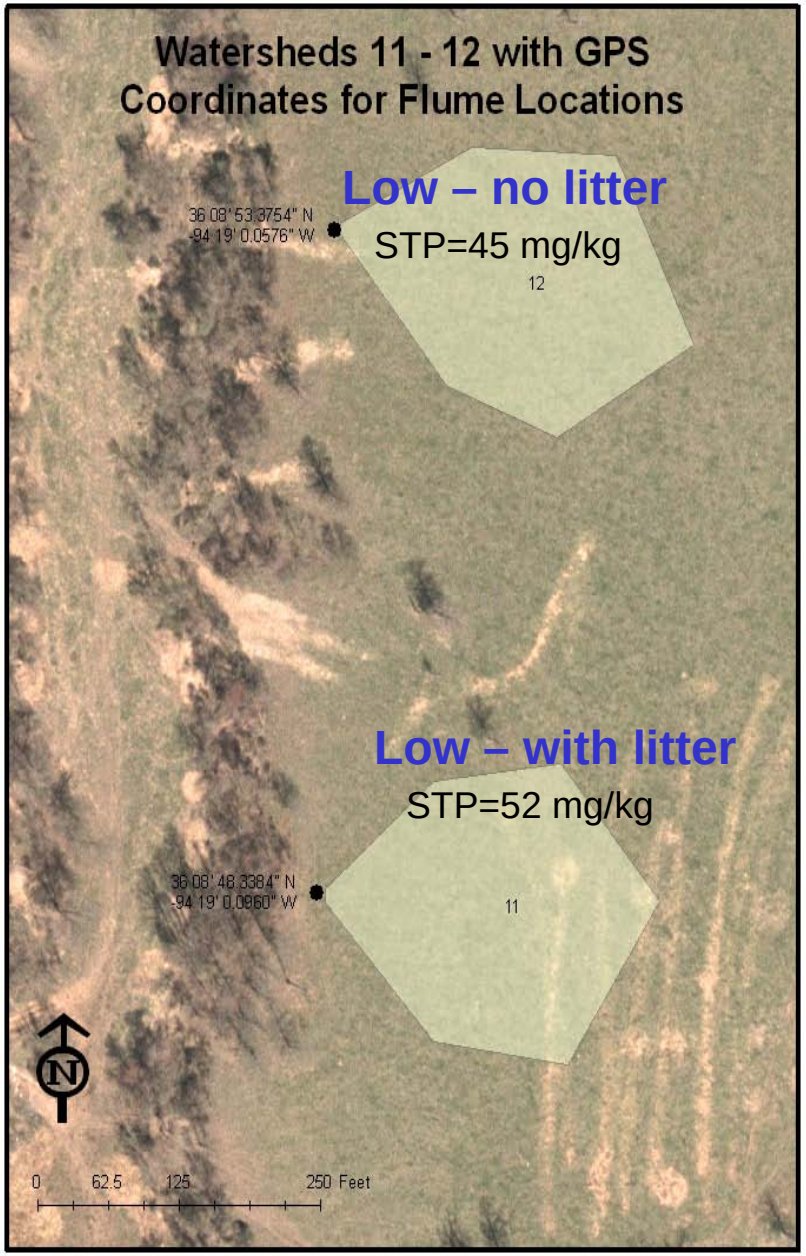
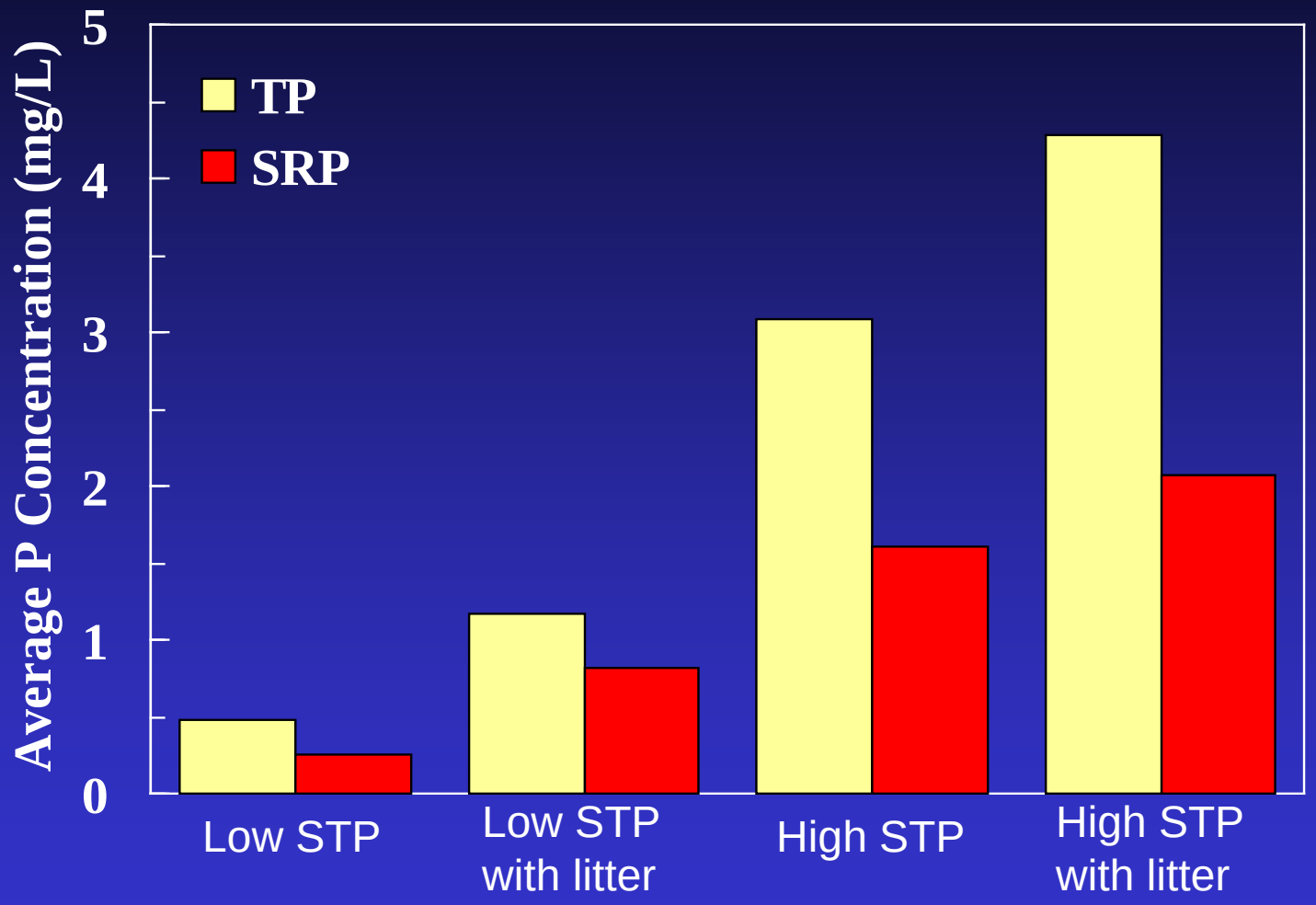
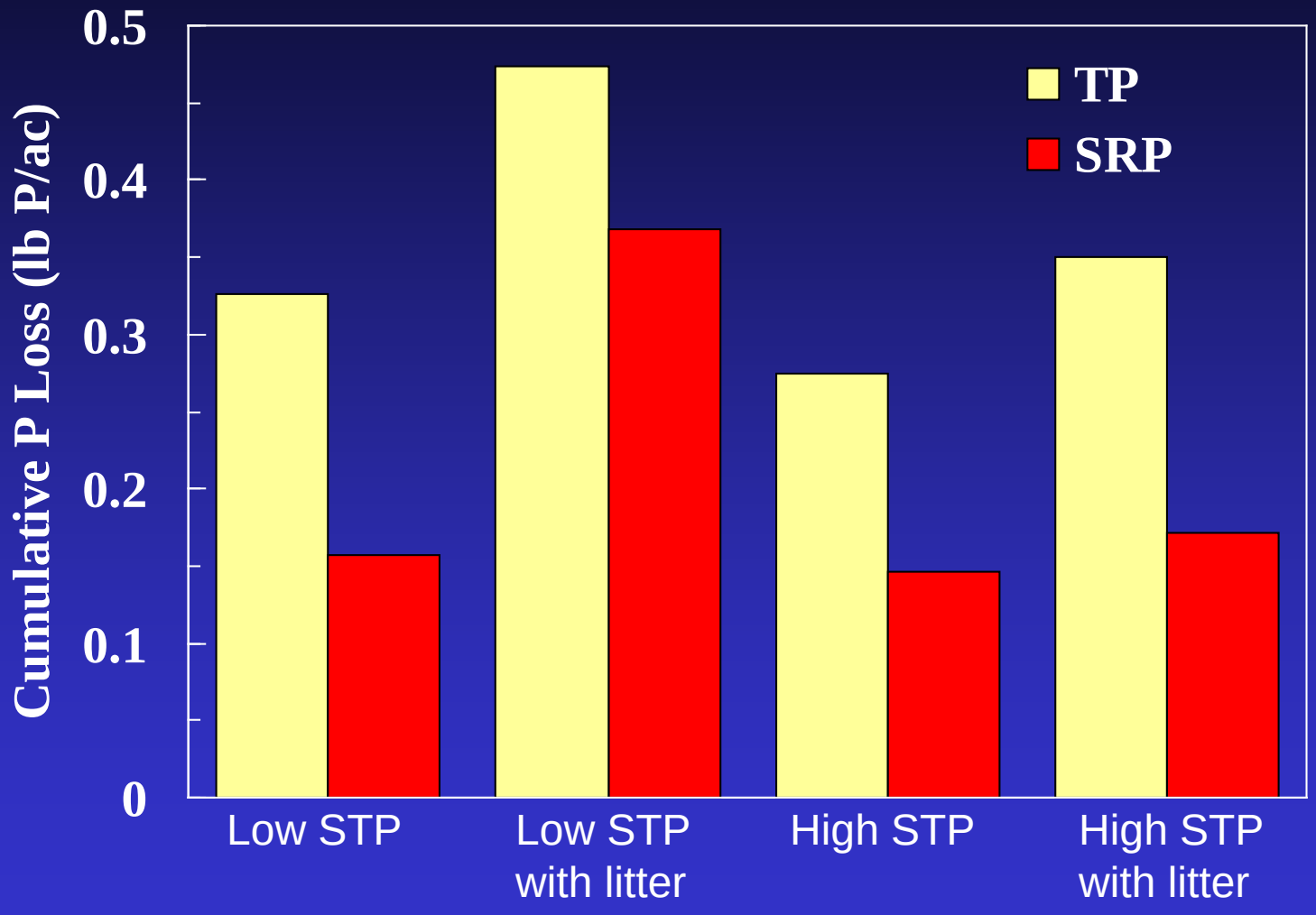
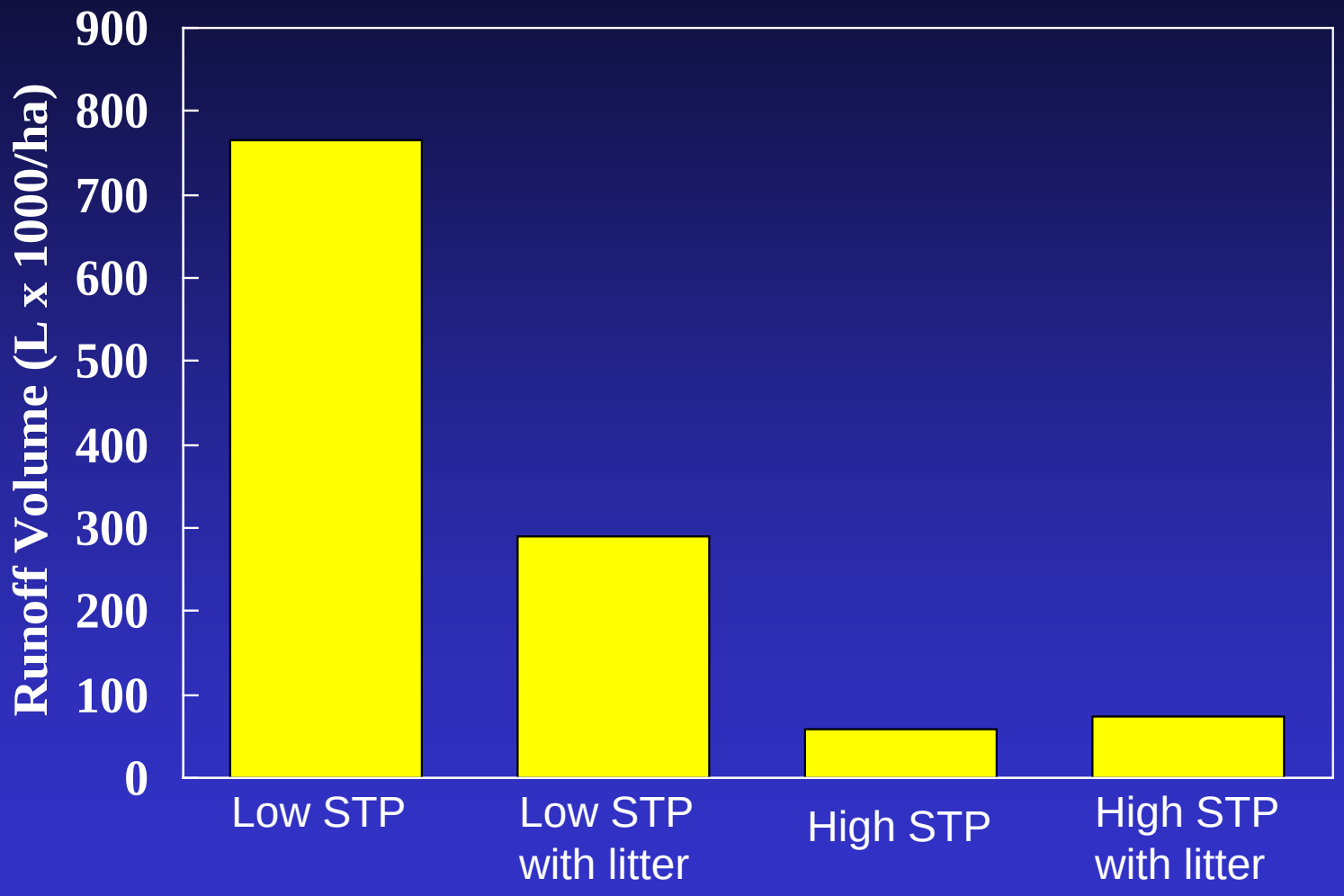



TP Applied = 41.4 lb/ac




Average P Concentration (mg/L)
0
1
2
3
4
5
TP
SRP
Low STP
Low STP with litter
High STP
High STP with litter


Cumulative P Loss (lb P/ac)
0.5
0.4
0.3
0.2
0.1
0
TP
SRP
Low STP
Low STP with litter
High STP
High STP with litter


Runoff Volume (L x 1000/ha)
900
800
700
600
500
400
300
200
100
0
Low STP
Low STP with litter
High STP
High STP with litter

# Selection Criteria

- Uniform Soil Series
- Uniform Slope
- Uniform Field Size
- Cooperating landowner
  - Some construction involved
  - Implementation of different management practices

# Treatments

- Tillage
  - No-till/Conventional Till
- Application Timing
  - Fall/Spring; Annually/every third year
- Application Methods
  - Surface Application/Incorporation/Injecting
- Fertilizer Type
  - Compost/Raw Manure
- Other BMPs
  - Buffer Strip/Setback; grazing systems; cropping systems