

Phase 7: Proposed Classification Changes

Jackie A. Pickford, Sarah M. McDonald, Peter R. Claggett

Outline

- Intro/Background
- Changes to the Phase 7 Land Use Classification Roll-up
 - Summary of Major Changes
- Review of changes investigated by other WGs
 - Solar (USWG)
 - Harvested Forest (FWG/Timber Harvest Task Force)
 - Construction (USWG + LUWG)
- Review of changes investigated by FWG and LUWG
 - Decision 1: Natural Succession (FWG)
 - Decision 2: Mixed Open (LUWG)
- Questions/Discussion

Changes to the Phase 7 Land Use Classification Roll-up

Four new classes

- Solar infrastructure
- Solar pervious
- Harvested Forest
- Construction

Changes to old classes

- Rename "Mixed Open" to "Compacted Pervious"
- Redistribute LULC classes previously under Mixed Open

Updated loading rates

- Solar: USWG
- Harvested Forest: FWG (Timber Harvest Task Force)
- Construction: LUWG
- *Mixed Open/Compacted Pervious: LUWG

**TBD if necessary*

Summary of Major Changes

Rollup of High-Res Land Use Classes for Phase 6

1. Impervious, Roads (1)

20 Roads

2. Impervious, Non-Roads (4)

21 Structures

22 Other Impervious (Parking lots, driveways)

31 Extractive Impervious

32 Solar Field Panel Arrays

3. Tree Canopy Over Impervious (3)

23 TC over Roads

24 TC over Structures

25 TC over Other Impervious

4. Turf Grass (1)

27 Turf Grass

5. Tree Canopy over Turf Grass (1)

26 Tree Canopy over Turf Grass

6. Forest (6)

40 Forest

41 Tree Canopy, Other

53 Riverine Wetlands Tree Canopy

54 Riverine Wetlands Forest

63 Terrene Wetlands Tree Canopy

64 Terrene Wetlands Forest

7. Mixed Open (14)

15 Bare Shore

28 Bare Developed

30 Extractive Barren

33 Solar Field Barren

34 Solar Field Herbaceous

35 Solar Field Shrubland

36 Suspended Succession Barren

37 Suspended Succession Herbaceous

38 Suspended Succession Shrubland

42 Natural Succession Barren

43 Natural Succession Herbaceous

44 Natural Succession Shrubland

45 Harvested Forest Barren

46 Harvested Forest Herbaceous

8. Wetlands, Riverine Non-forested (4)

50 Riverine Wetlands Barren

51 Riverine Wetlands Herbaceous

52 Riverine Wetlands Shrubland

55 Riverine Wetlands Harvested Forest

9. Wetlands, Terrene Non-forested (4)

60 Terrene Wetlands Barren

61 Terrene Wetlands Herbaceous

62 Terrene Wetlands Shrubland

65 Terrene Wetlands Harvested Forest

10. Cropland (5)

80 Cropland Barren

81 Cropland Herbaceous

82 Orchards and Vineyards Barren

83 Orchards and Vineyards Herbaceous

84 Orchards and Vineyards Shrubland

11. Pasture and Hay (2)

85 Pasture and Hay Barren

86 Pasture and Hay Herbaceous

12. Water (4)

11 Lakes & Reservoirs

12 Riverine Ponds

13 Terrene Ponds

14 Streams and Rivers (visible water)

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Reported Data from States

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New classes being
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Stormwater

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Classes in CAST, reported by jurisdictions, that will be spatially reconciled with mapped land use

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Rename "Mixed Open" to
"Compacted Pervious"

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Reported Data from States

Redistribute "Mixed Open"
classes (in green)

Review of changes investigated by other WGs

Solar (USWG)

Harvested Forest (FWG/Timber Harvest Task Force)

Construction (USWG + LUWG)

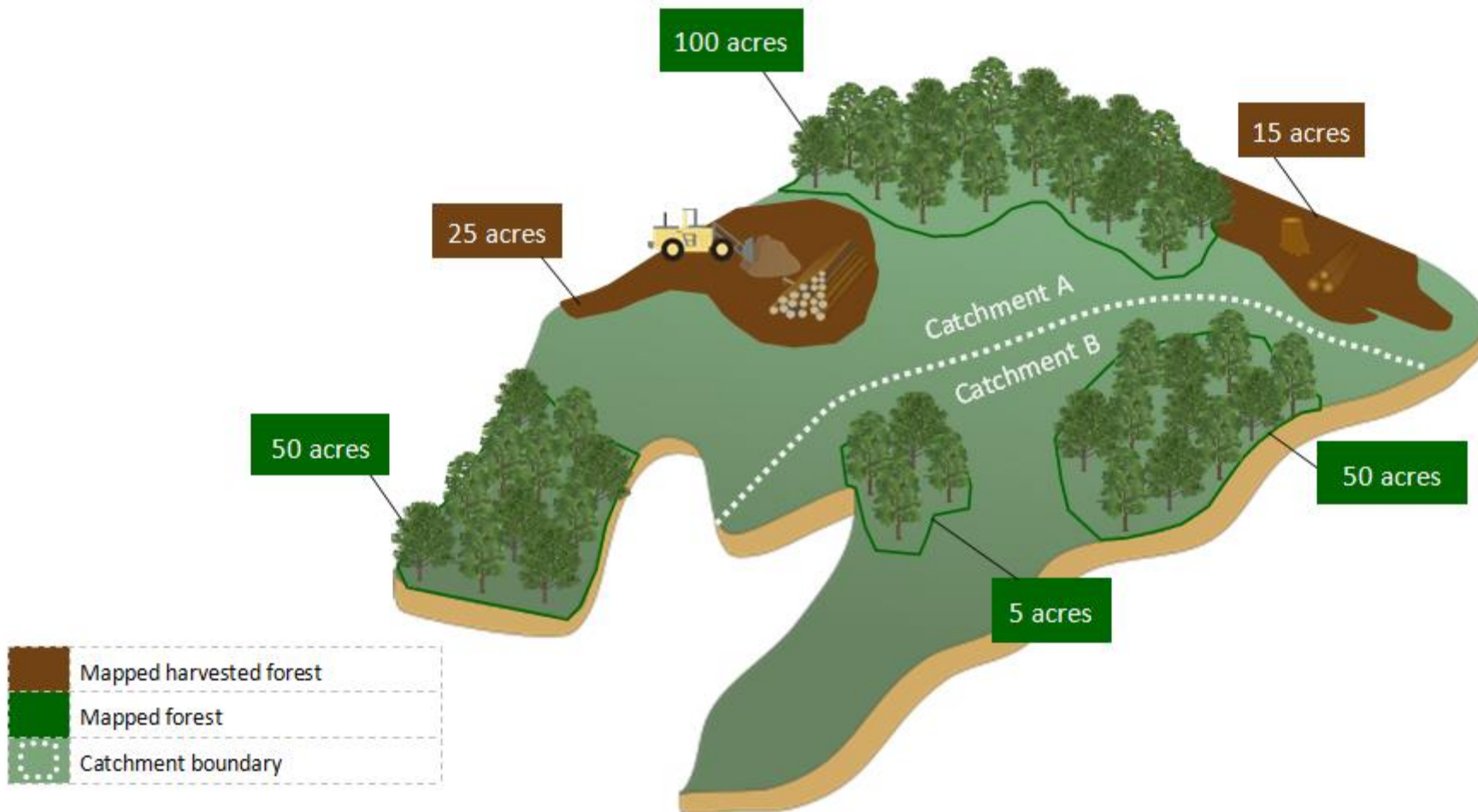
Timber Harvest Task Force Recommendations

Reconciling reported and mapped harvest data to avoid double-counting of clearcuts and improving spatial allocation of harvest

- States continue to report harvest data at the county scale
- Reported data are spatially allocated to the harvested forest footprint up to the amount reported
- Any additional reported acres (above mapped acres) are distributed across NHD catchments within each county based on relative amount of “harvestable” forest in each catchment
 - “Harvestable” forest would be defined as forest patches >10 acres
 - “Harvestable” forest footprint would be updated with the LULC data (every 4-5 years)

County X reported 100 acres of harvested forest. The land use/land cover mapped 40 acres of harvested forest.

How do we reconcile the remaining **60 acres** of harvested forest?



Proposed Phase 7 Approach:

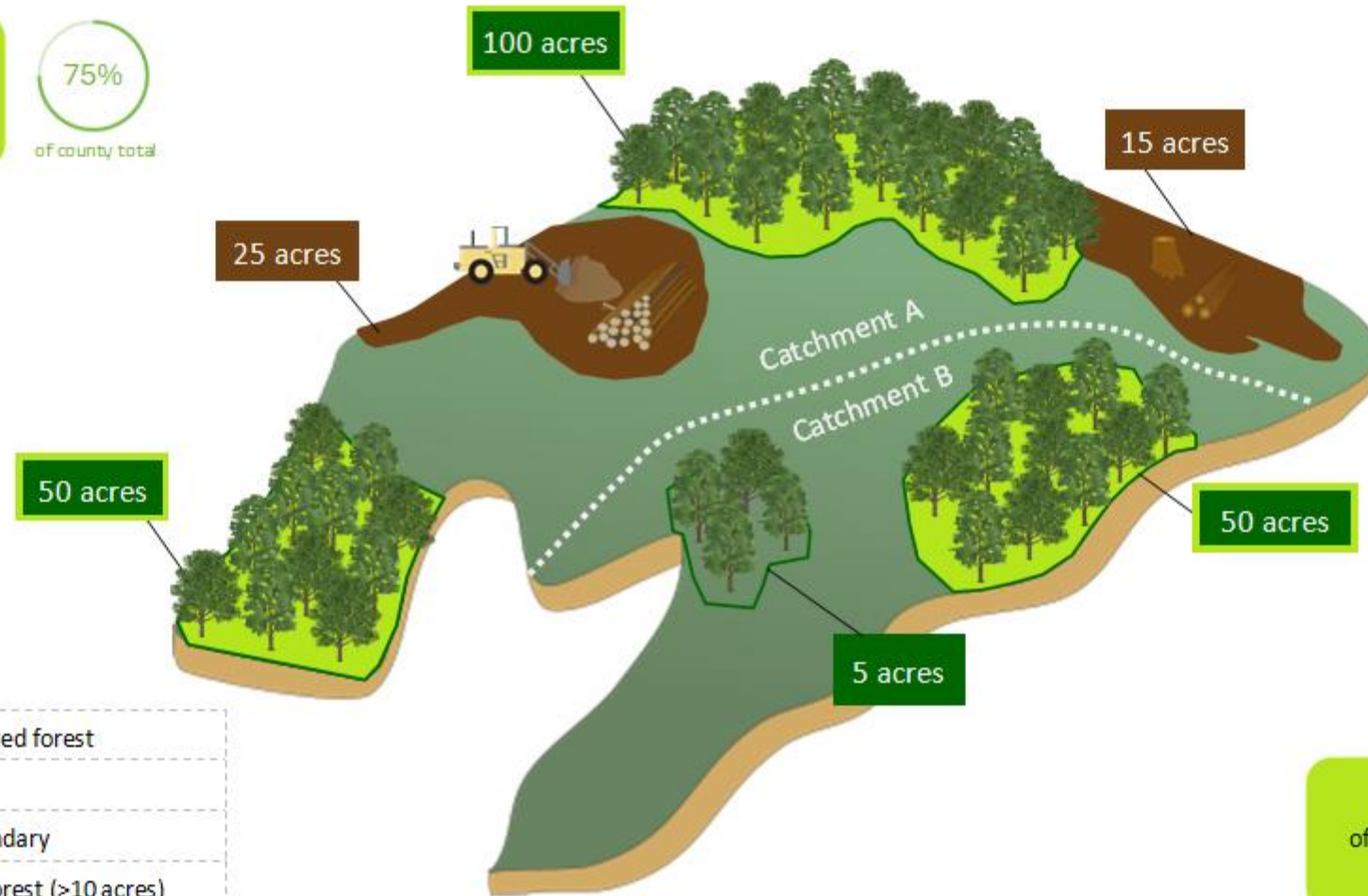
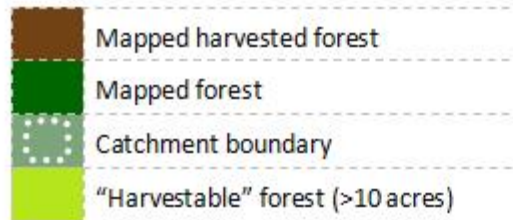
Identify large patches of harvestable forest (>10 acres) in which remaining acres of reported harvest data can be allocated.

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Catchment A

150 acres
of "harvestable"
forest



50 acres
of "harvestable"
forest

Catchment B

Proposed Phase 7 Approach:

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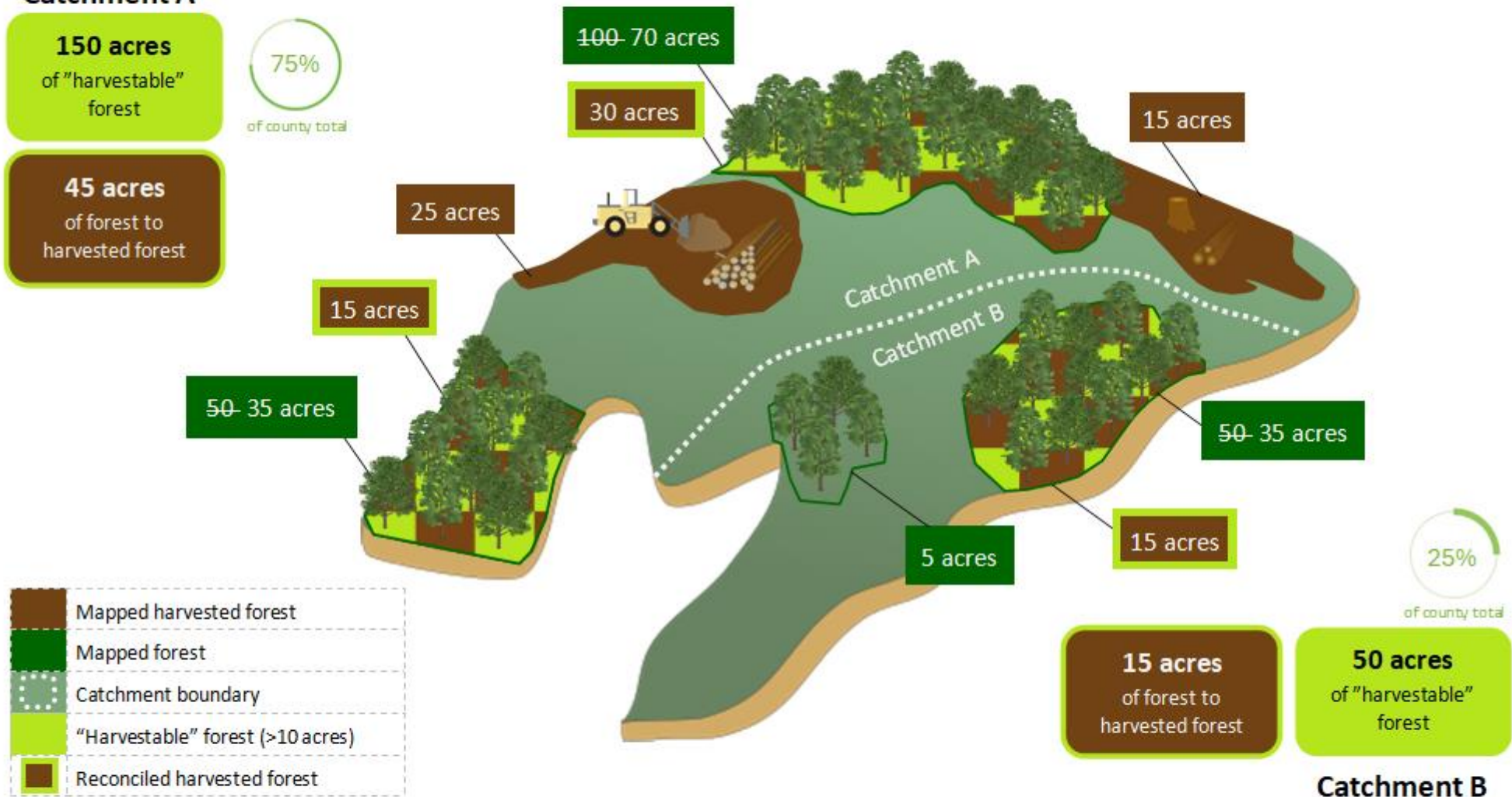
How do we reconcile the remaining **60 acres** of harvested forest?

Catchment A

150 acres
of "harvestable"
forest



45 acres
of forest to
harvested forest



Proposed Phase 7 Approach:

Identify large patches of harvestable forest (>10 acres) in which remaining acres of reported harvest data can be allocated.

FWG Decision

In Phase 7, can the three “Natural Succession” classes roll-up to the “Forest” class, rather than “Mixed Open”?

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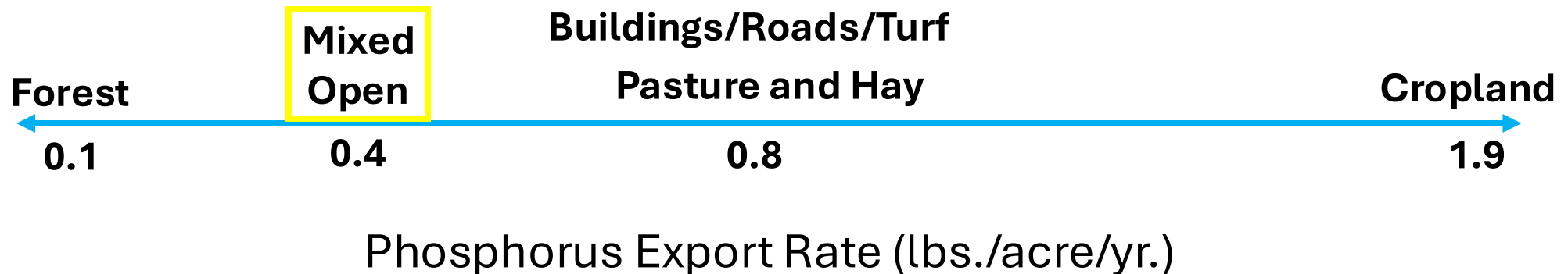
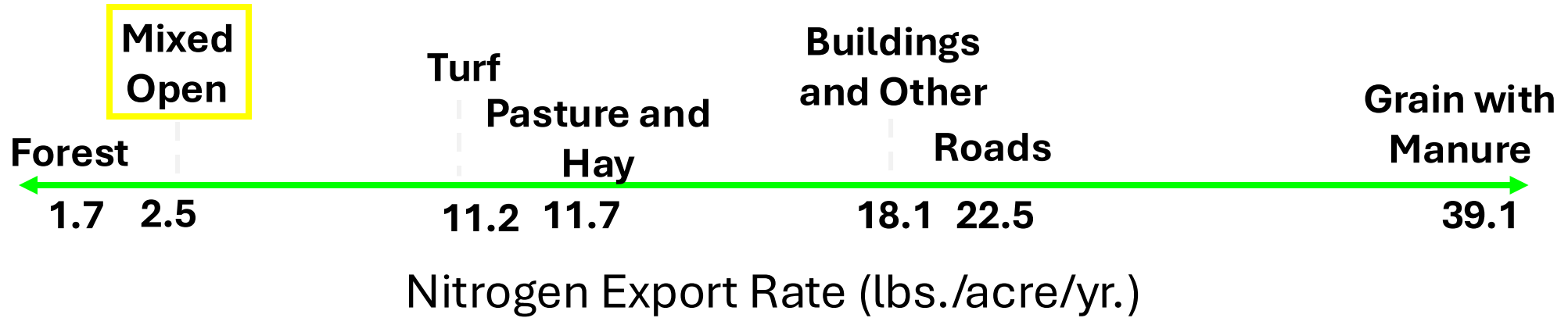
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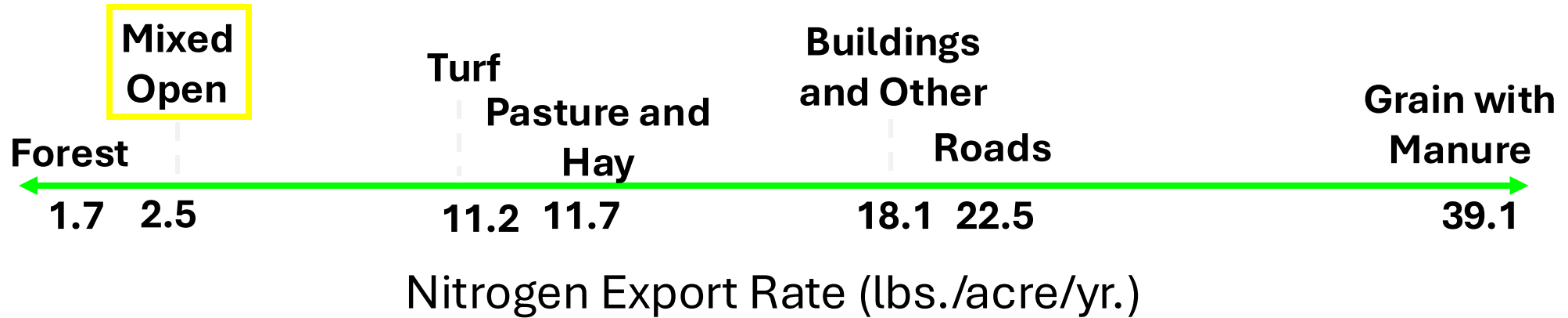
33 Solar Field Barren

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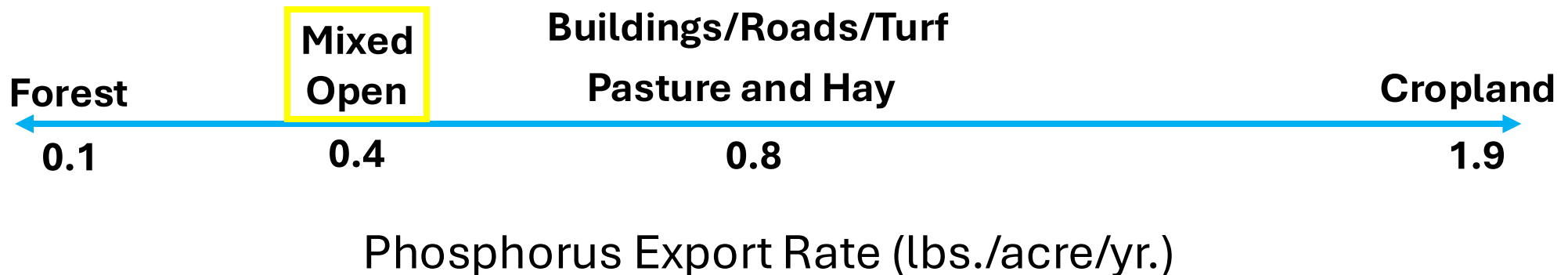
Average P6 Land Use Nutrient Export Rates



Average P6 Land Use Nutrient Export Rates



Approval would move acres from Mixed Open to Forest, lowering Nitrogen and Phosphorus export for those acres.

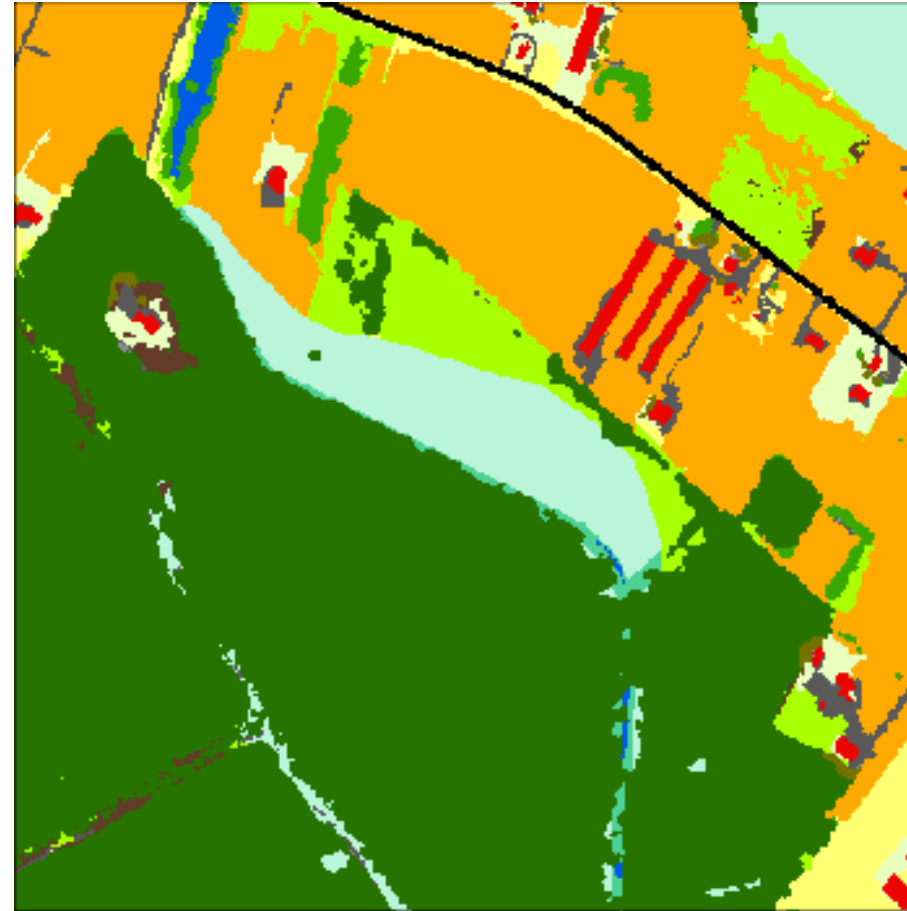


Rural Example: Wicomico, MD

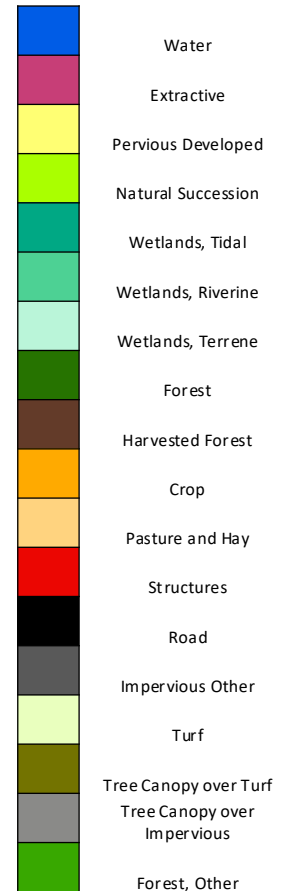
Natural Succession Barren



NAIP Imagery 2021/2022



Land Use/Land Cover 2024 Ed.



Rural Example: Elk, PA

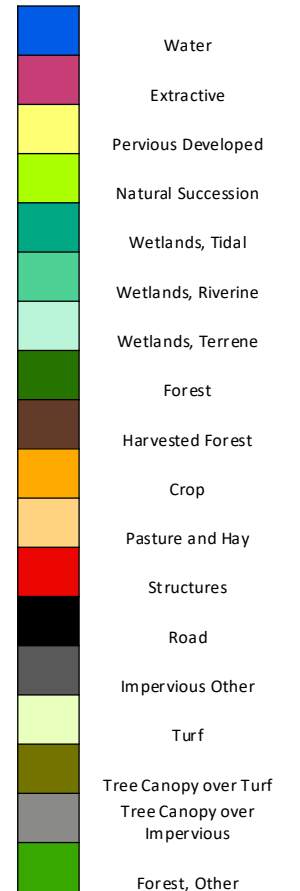
Natural Succession Shrubland



NAIP Imagery 2021/2022



Land Use/Land Cover 2024 Ed.



Suburban Example: Berkeley, WV

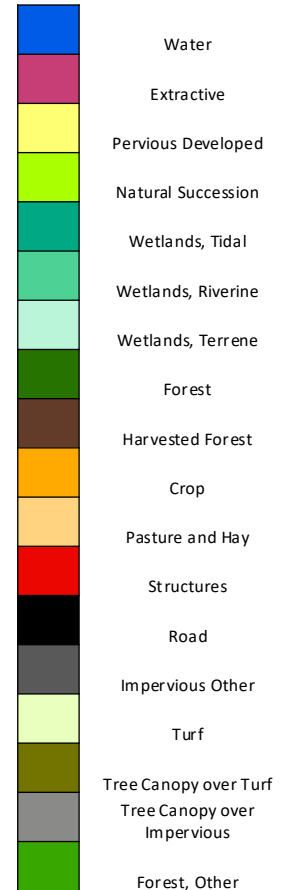
Natural Succession Barren



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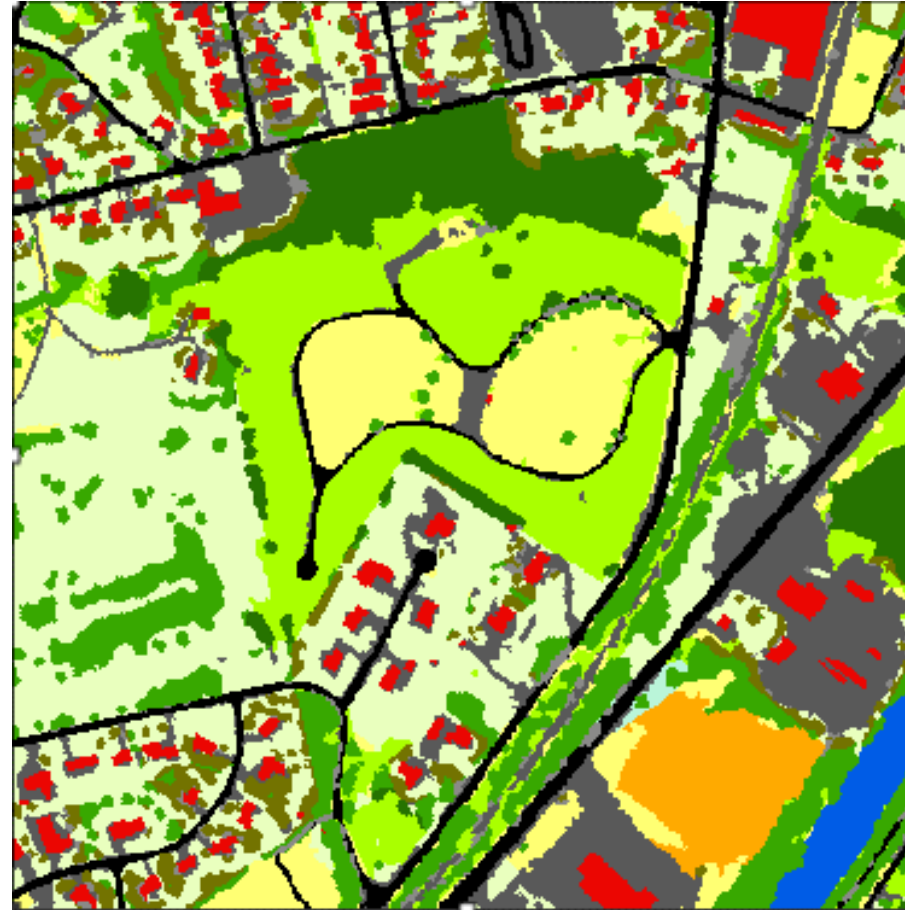


Suburban Example: Jefferson, PA

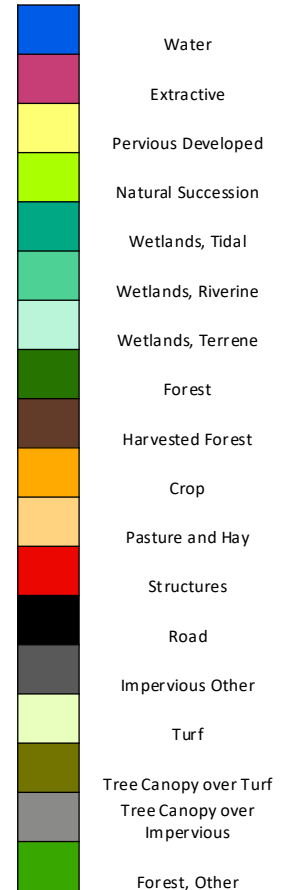
Natural Succession Herbaceous



NAIP Imagery 2021/2022



Land Use/Land Cover 2024 Ed.



Urban Example: Clearfield, PA

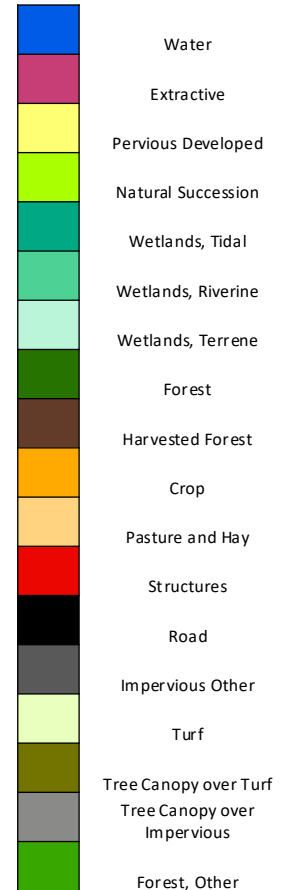
Natural Succession Herbaceous / Shrubland



NAIP Imagery 2021/2022



Land Use/Land Cover 2024 Ed.



FWG Decision Requested

Approval of the following change to the land use classification roll-up for Phase 7:

the three “Natural Succession” classes will roll-up to the “Forest” class, rather than “Mixed Open”.

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5. Tree Canopy over Turf Grass (1)

26 Tree Canopy over Turf Grass

6. Solar Infrastructure (1)

32 Solar Field Panel Arrays

7. Solar Pervious (2)

34 Solar Field Herbaceous

35 Solar Field Shrubland

8. Compacted Pervious (4)

30 Extractive Barren

36 Suspended Succession Barren

37 Suspended Succession Herbaceous

38 Suspended Succession Shrubland

9. Forest (9)

40 Forest

41 Tree Canopy, Other

42 Natural Succession Barren

43 Natural Succession Herbaceous

44 Natural Succession Shrubland

53 Riverine Wetlands Tree Canopy

54 Riverine Wetlands Forest

63 Terrene Wetlands Tree Canopy

64 Terrene Wetlands Forest

10. Wetlands, Riverine Non-forested (4)

50 Riverine Wetlands Barren

51 Riverine Wetlands Herbaceous

52 Riverine Wetlands Shrubland

55 Riverine Wetlands Harvested Forest

11. Wetlands, Terrene Non-forested (4)

60 Terrene Wetlands Barren

61 Terrene Wetlands Herbaceous

62 Terrene Wetlands Shrubland

65 Terrene Wetlands Harvested Forest

12. Cropland (5)

80 Cropland Barren

81 Cropland Herbaceous

82 Orchards and Vineyards Barren

83 Orchards and Vineyards Herbaceous

84 Orchards and Vineyards Shrubland

13. Pasture and Hay (2)

85 Pasture and Hay Barren

86 Pasture and Hay Herbaceous

14. Water (5)

11 Lakes & Reservoirs

12 Riverine Ponds

13 Terrene Ponds

14 Streams and Rivers (visible water)

15 Bare Shore- adjacent to lakes

15. Harvested Forest (2)

45 Harvested Forest Barren

46 Harvested Forest Herbaceous

Reported Data from States

16. Construction (2)

28 Bare Developed

33 Solar Field Barren

Reported Data from States

LUWG Decision Requested

Approval of the following regarding the land use classification roll-up for Phase 7:

- a) Renaming the “Mixed Open” class to “Compacted Pervious”
- b) The roll-up of LULC classes* to the “Mixed Open” class

**The specific LULCs will be dependent on the FWG decision.*

The LUWG will be asked for feedback on whether to change the loading rate for the Mixed Open class.

Proposed Rollup of High-Res Land Use Classes for Phase 7

1. Impervious, Roads (1)

20 Roads

2. Impervious, Non-Roads (3)

21 Structures
22 Other Impervious (Parking lots, driveways)
31 Extractive Impervious

3. Tree Canopy Over Impervious (3)

23 TC over Roads
24 TC over Structures
25 TC over Other Impervious

4. Turf Grass (1)

27 Turf Grass

5. Tree Canopy over Turf Grass (1)

26 Tree Canopy over Turf Grass

6. Solar Infrastructure (1)

32 Solar Field Panel Arrays

7. Solar Pervious (2)

34 Solar Field Herbaceous
35 Solar Field Shrubland

8. Compacted Pervious (4)

30 Extractive Barren
36 Suspended Succession Barren
37 Suspended Succession Herbaceous
38 Suspended Succession Shrubland

9. Forest (9)

40 Forest
41 Tree Canopy, Other
42 Natural Succession Barren
43 Natural Succession Herbaceous
44 Natural Succession Shrubland
53 Riverine Wetlands Tree Canopy
54 Riverine Wetlands Forest
63 Terrene Wetlands Tree Canopy
64 Terrene Wetlands Forest

10. Wetlands, Riverine Non-forested (4)

50 Riverine Wetlands Barren
51 Riverine Wetlands Herbaceous
52 Riverine Wetlands Shrubland
55 Riverine Wetlands Harvested Forest

11. Wetlands, Terrene Non-forested (4)

60 Terrene Wetlands Barren
61 Terrene Wetlands Herbaceous
62 Terrene Wetlands Shrubland
65 Terrene Wetlands Harvested Forest

12. Cropland (5)

80 Cropland Barren
81 Cropland Herbaceous
82 Orchards and Vineyards Barren
83 Orchards and Vineyards Herbaceous
84 Orchards and Vineyards Shrubland

13. Pasture / Hay (2)

85 Pasture/Hay Barren
86 Pasture/Hay Herbaceous

14. Water (5)

11 Lakes & Reservoirs
12 Riverine Ponds
13 Terrene Ponds
14 Streams and Rivers (visible water)
15 Bare Shore- adjacent to lakes

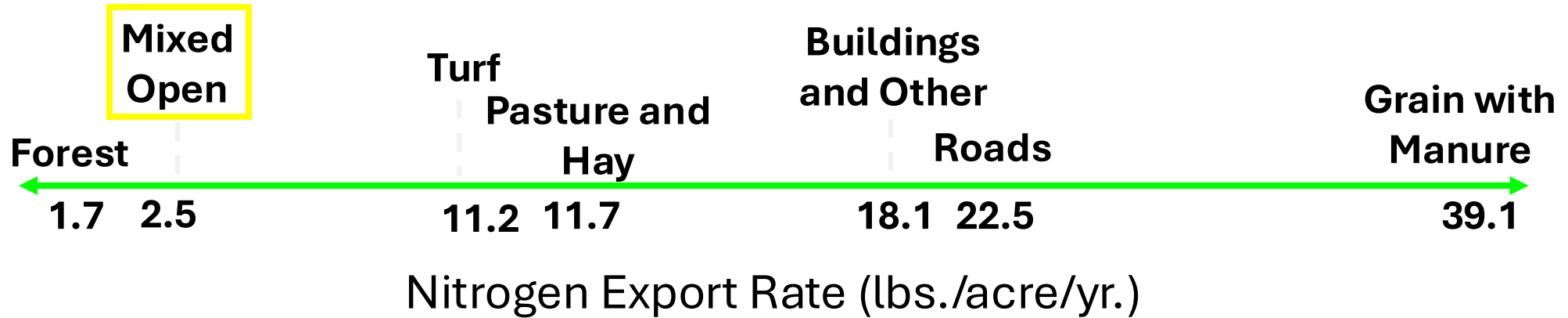
15. Harvested Forest (2)

45 Harvested Forest Barren
46 Harvested Forest Herbaceous
Reported Data from States

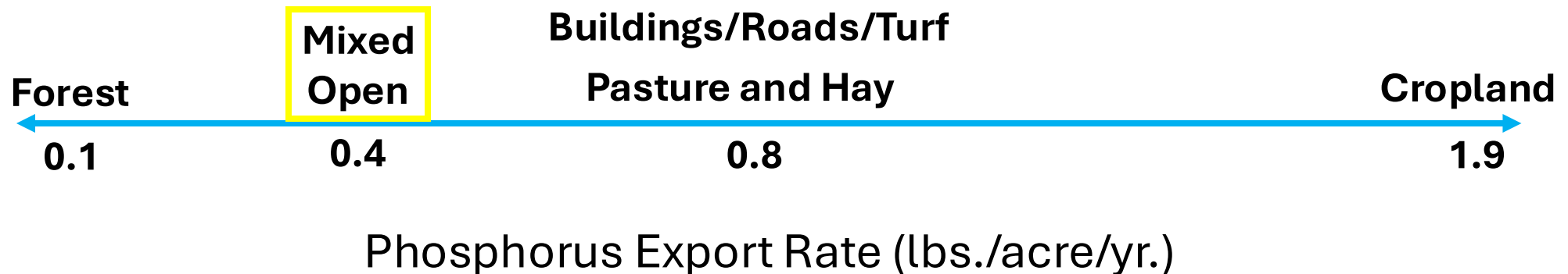
16. Construction (2)

28 Bare Developed
33 Solar Field Barren
Reported Data from States

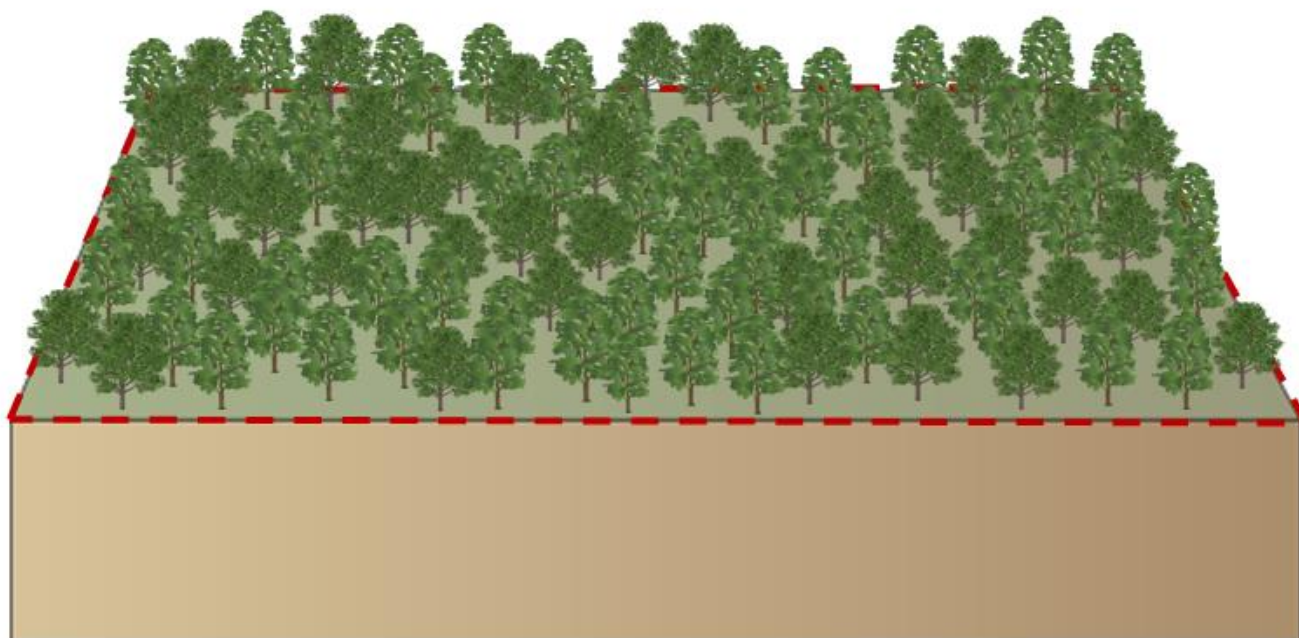
Average P6 Land Use Nutrient Export Rates



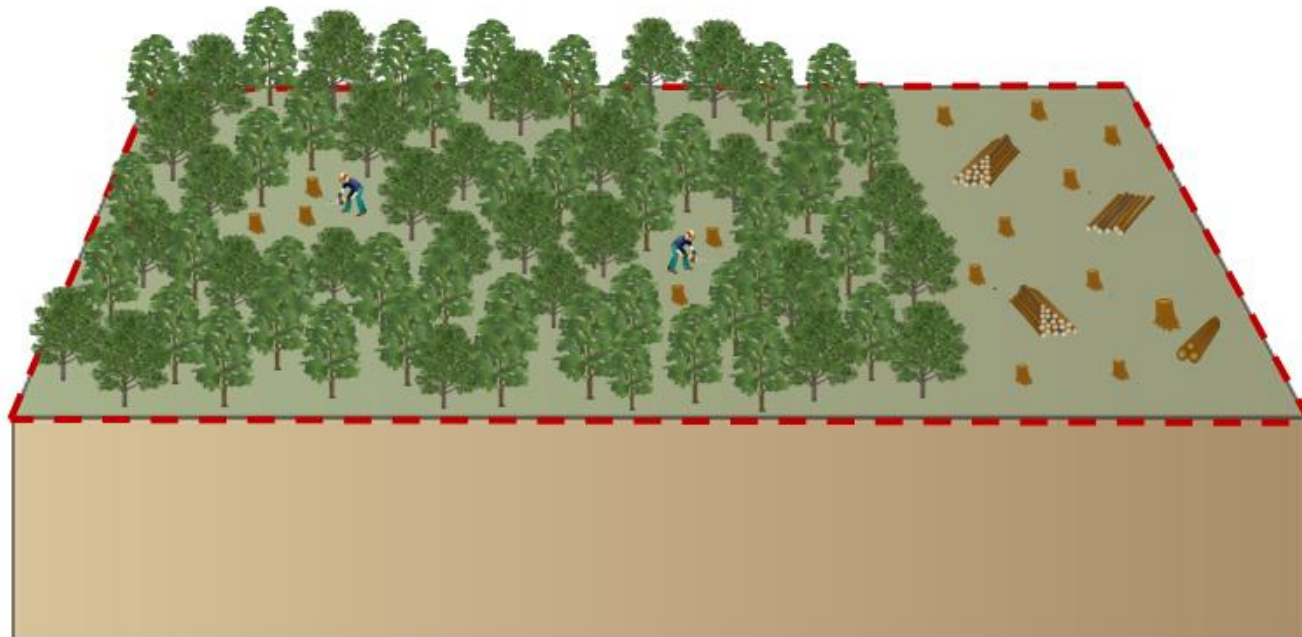
For the remaining classes in Mixed Open (or new name), are there recommendations for changing the loading rates?



 Area permitted for timber harvest



 Area permitted for timber harvest

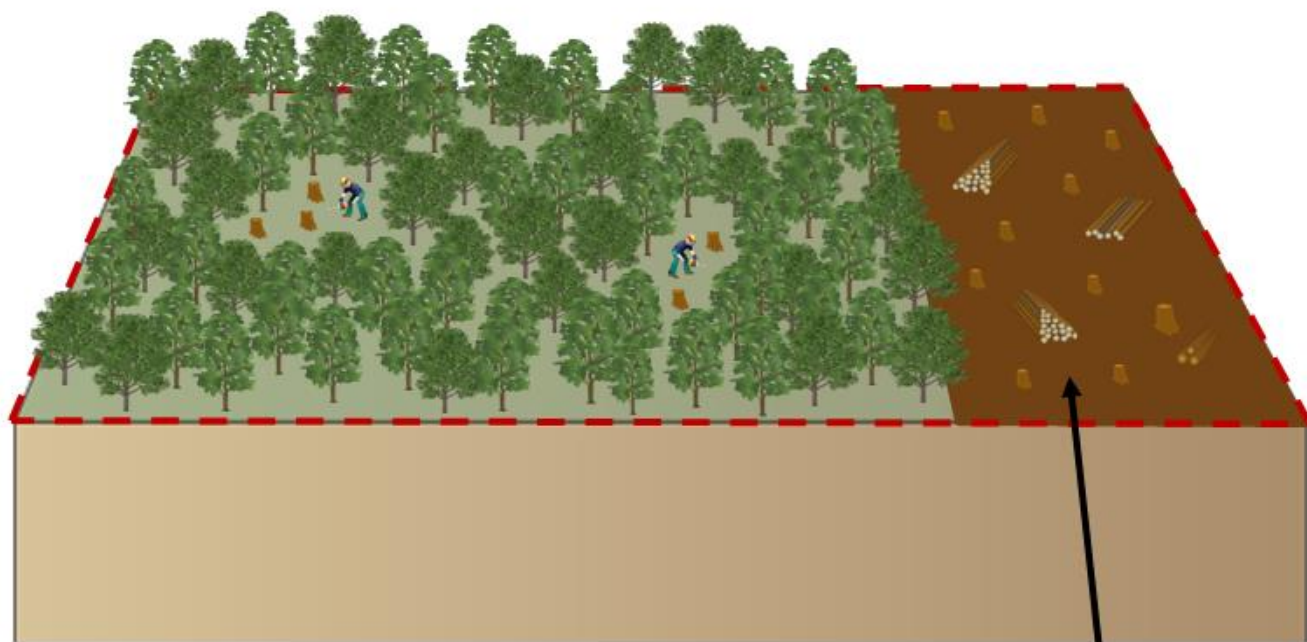




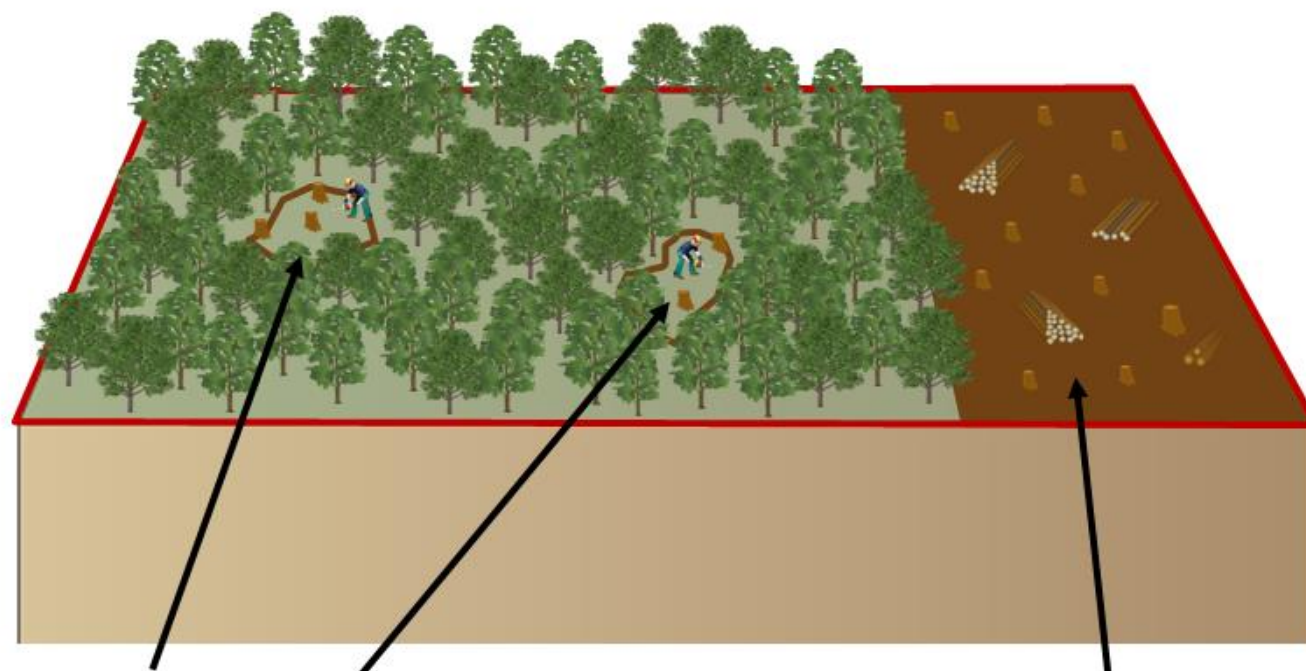
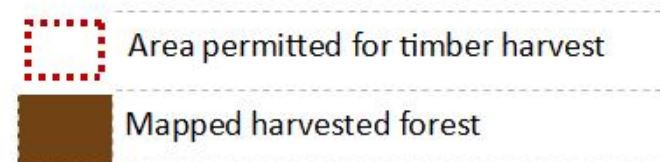
Area permitted for timber harvest



Mapped harvested forest



Clear cut timber harvests **will** be
accounted for in the high-res land
use/land cover



Small patches (e.g., thinning, selective cuts) of timber harvest within forests **will not** be accounted for in the high-res land use/land cover

Clear cut timber harvests **will** be accounted for in the high-res land use/land cover