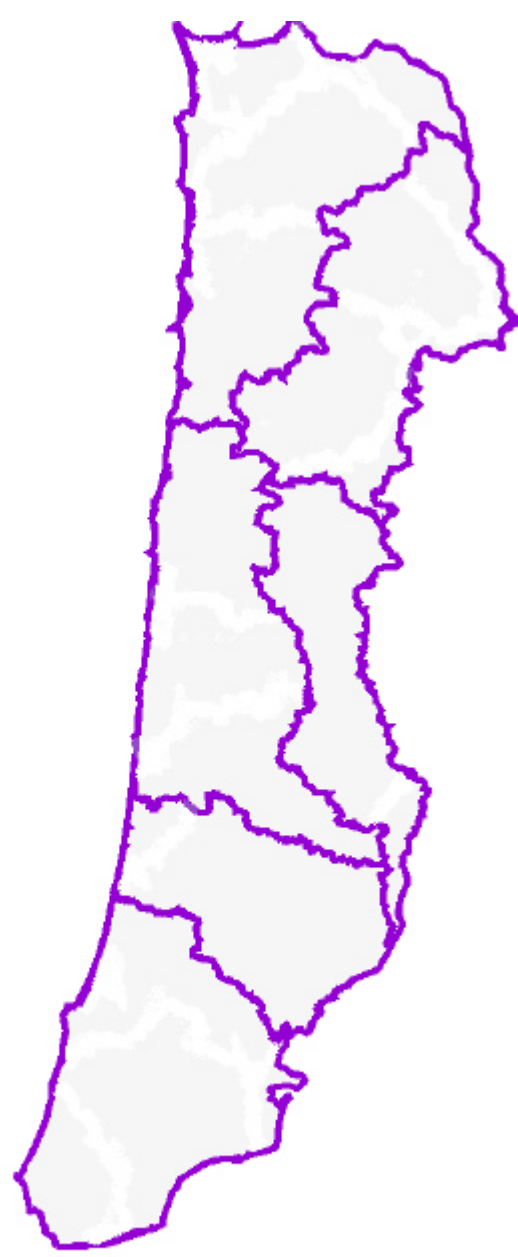


Aggregating Harvest Units to Form Clearcut Harvest Blocks with Sizes Similar to a Historical Distribution of Clearcut Patch Sizes

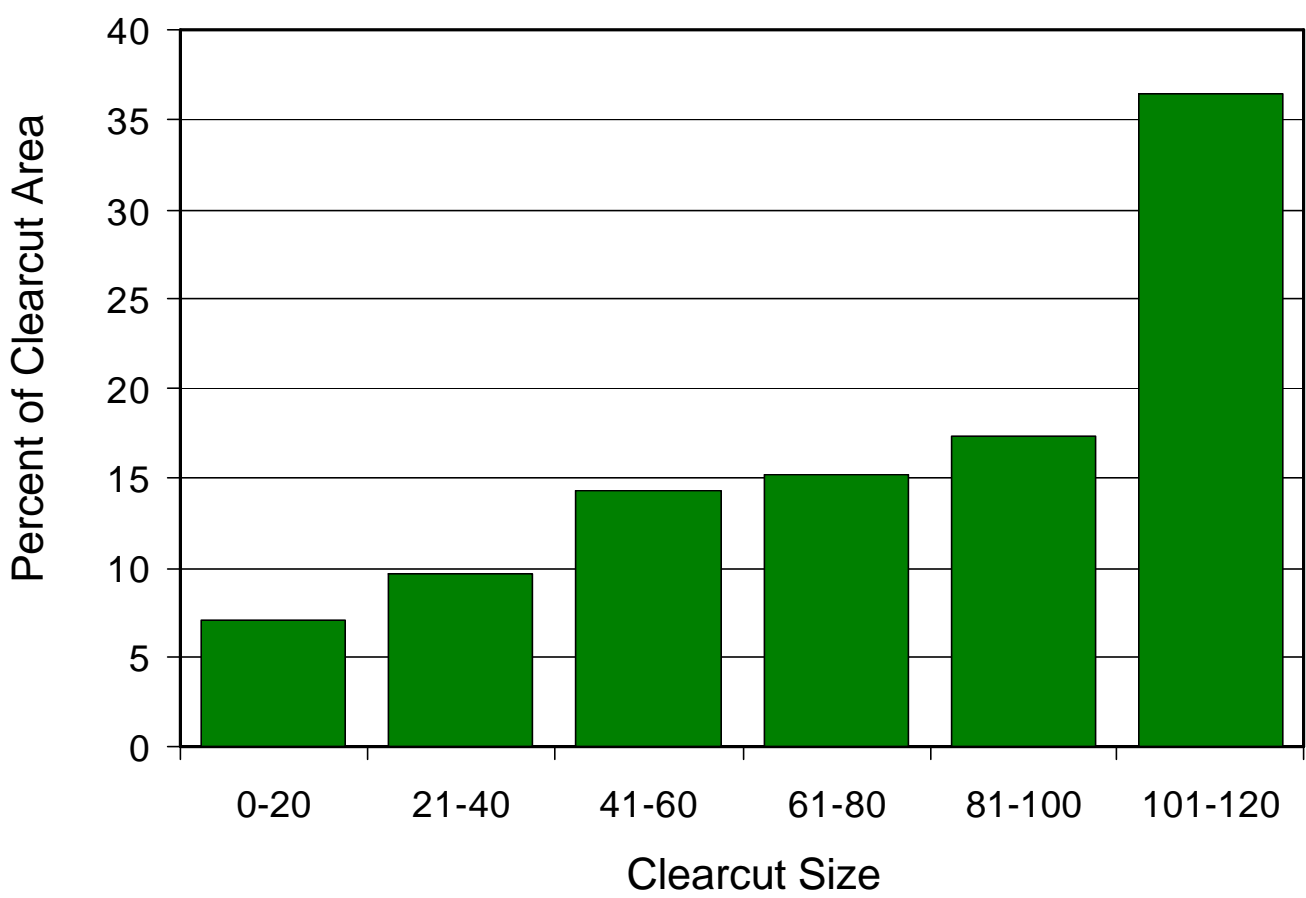
Coastal Landscape Analysis and Modeling Study; College of Forestry, Oregon State University; USDA Forest Service, Pacific Northwest Research Station, Corvallis, OR; Oregon Department of Forestry

Pete Bettinger, Department of Forest Resources, College of Forestry, Oregon State University, Corvallis, OR 97331 (Pete.Bettinger@orst.edu)

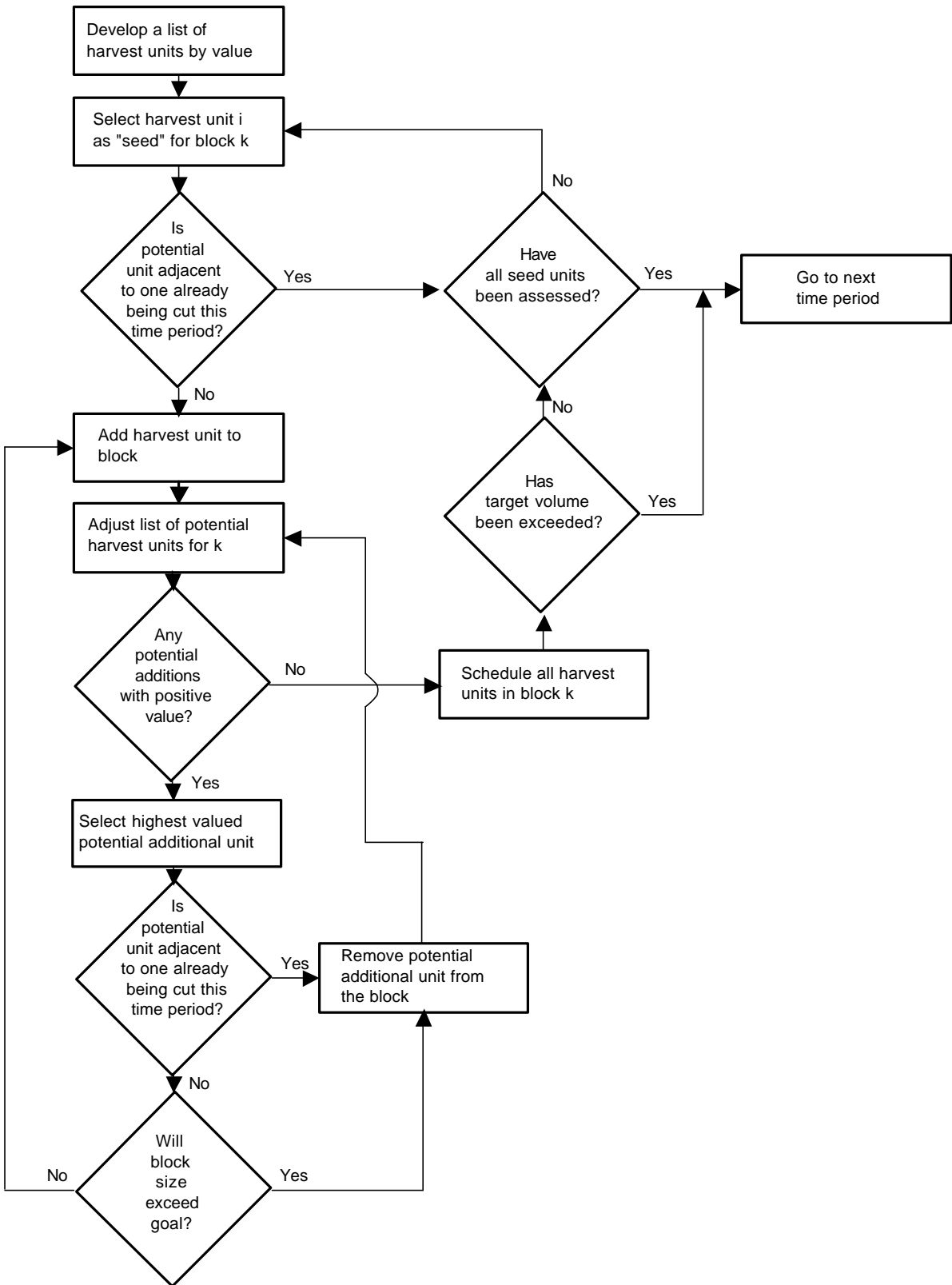


Harvest block size goals have been identified for the 1991-1995 time period for several regions of the Coast Range.

A sample of the percentage of acres we attempt to achieve for several clearcut patch sizes is illustrated below.



The harvest unit blocking process is described in the flow chart below. The example to the right illustrates many of the steps in the process of building a harvest block from individual harvest units.



Legend

- Harvest unit
- Harvest unit being considered for inclusion in the harvest block
- Harvest unit included in the harvest block
- Harvest unit rejected for inclusion in the harvest block

1072 = harvest unit number

\$12,000 = value per acre

cut = harvest unit is already scheduled in this time period.

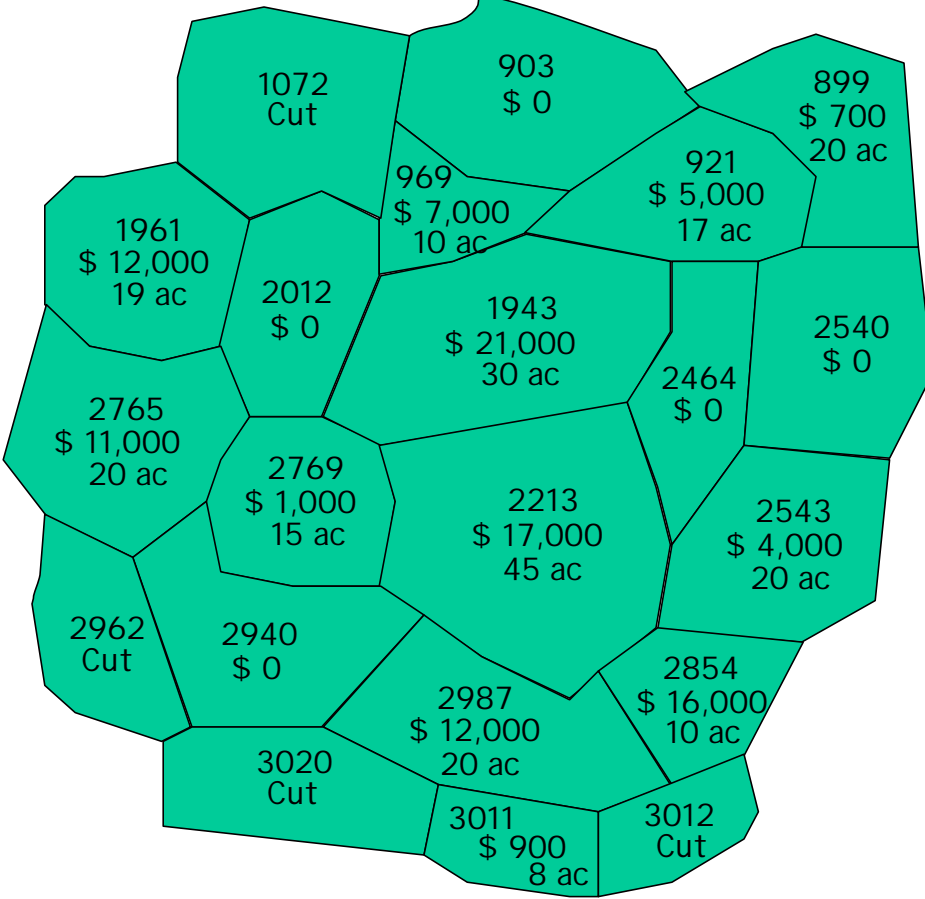
19 ac = size of harvest unit

Constraint #1 = Harvest unit must have a minimum positive value (\$0 in this example) to be included the block.

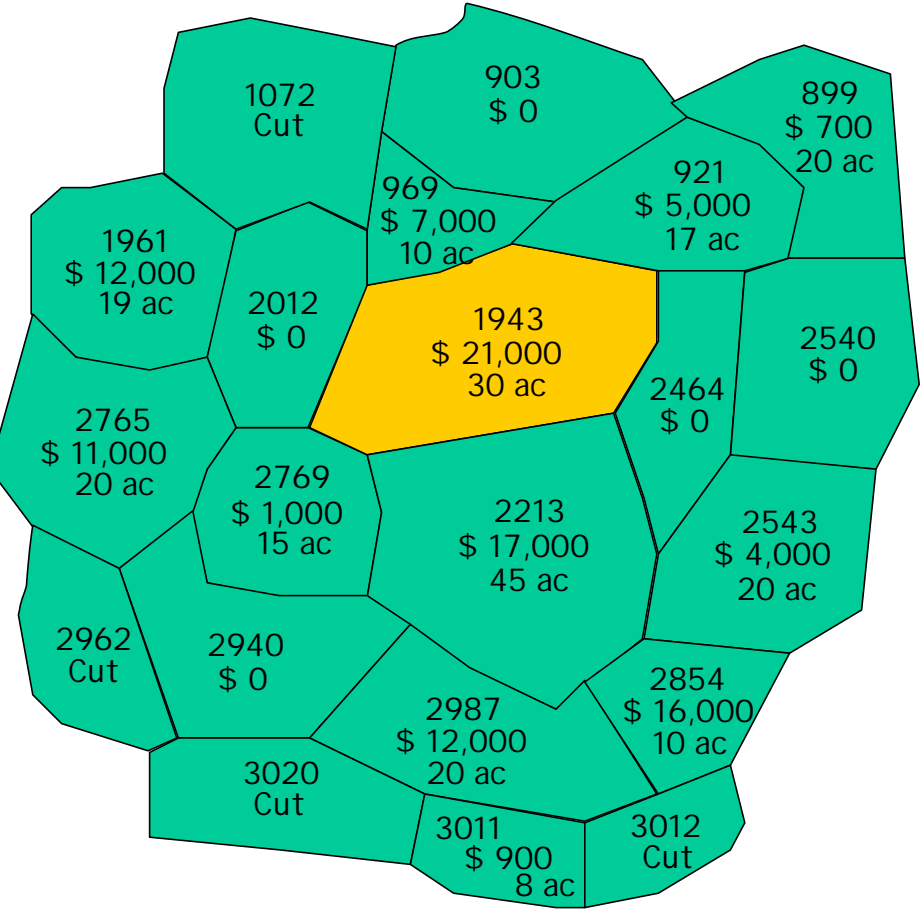
Constraint #2 = Harvest unit must not be adjacent to another already being cut in this time period (excluding those in the currently considered block).

Constraint #3 = Total block size must not exceed the block size goal (120 acres in this example).

Start. I identify block size goal: 120 acres (goal is adjusted when targeted acres for this strata have been scheduled).

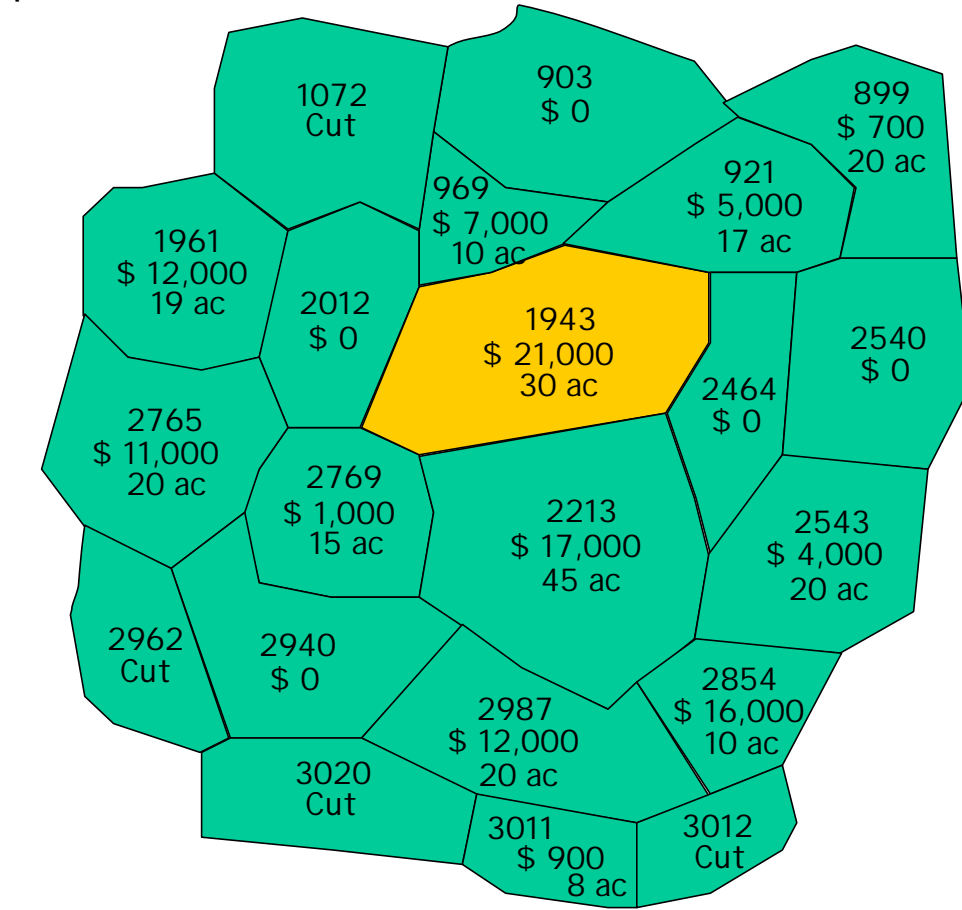


Select harvest unit 1943 (highest valued unit) as "seed" for block.



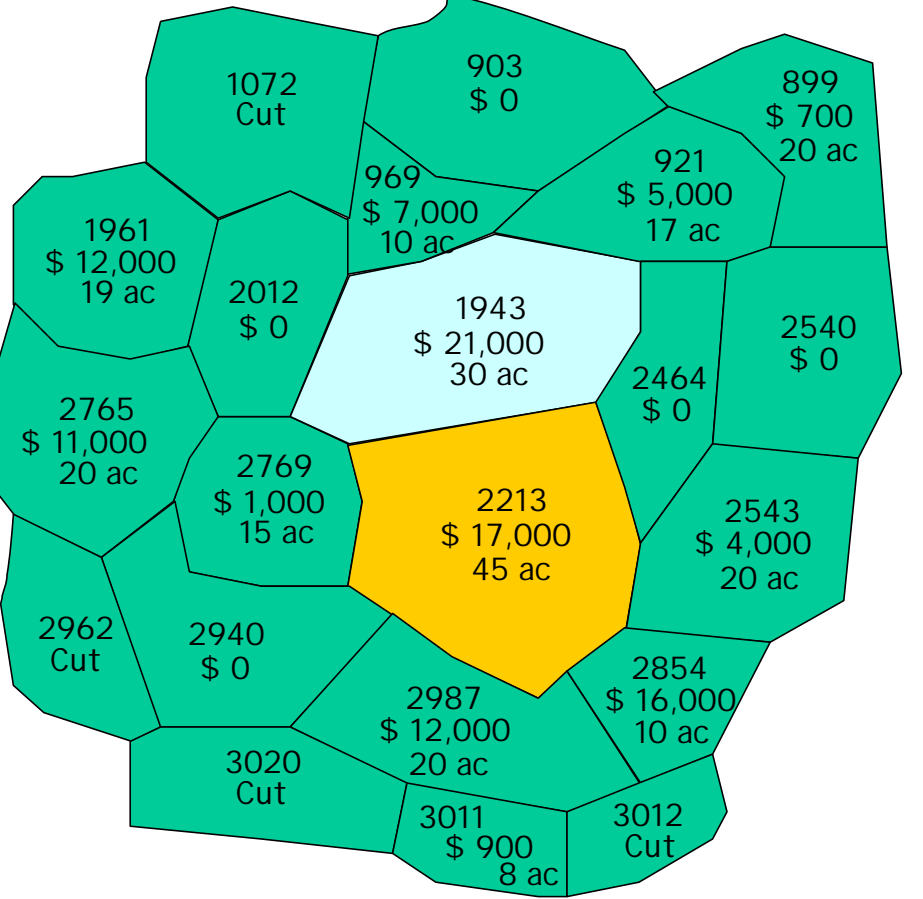
Selected	Block Pool	Block Size	Schedule
1943		30 ac	1943

Add unit 1943 to block. Adjust (develop) list of potential harvest units for block.



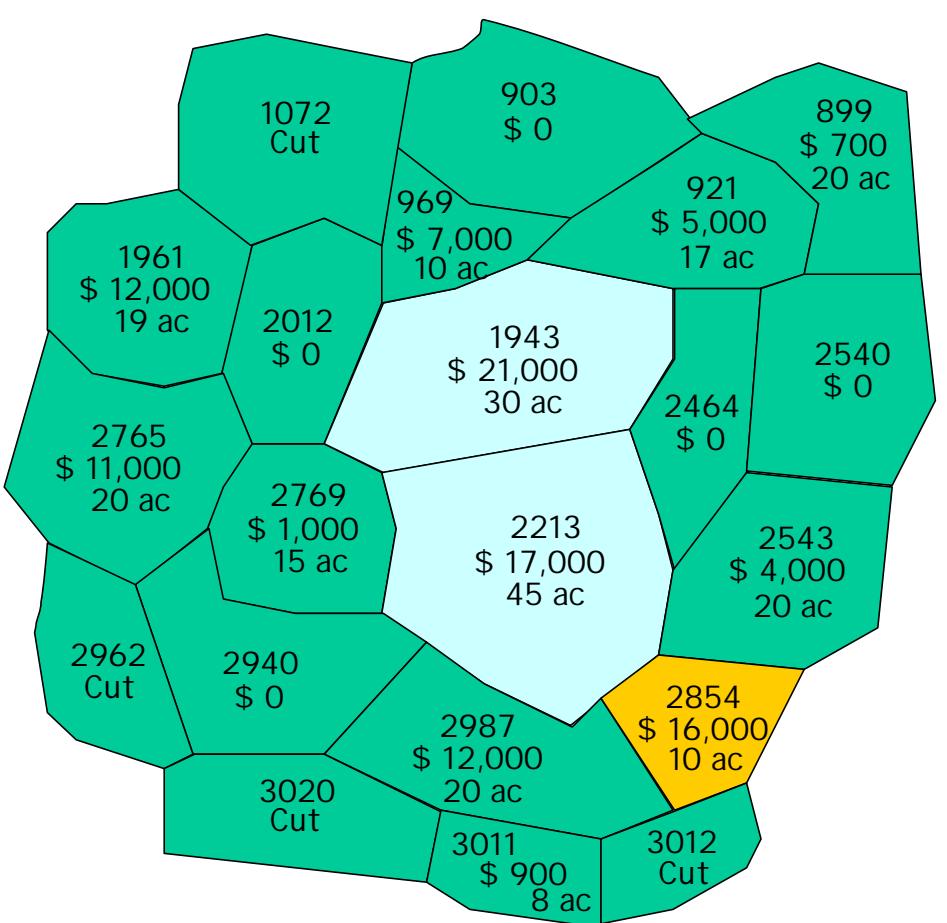
Selected	Block Pool	Block Size	Schedule
1943	921 969 2012 2213 2464 2769	30 ac	1943

Select highest valued unit(2213) from potential units. Add unit to block (no constraints violated). Adjust list of potential units for block.



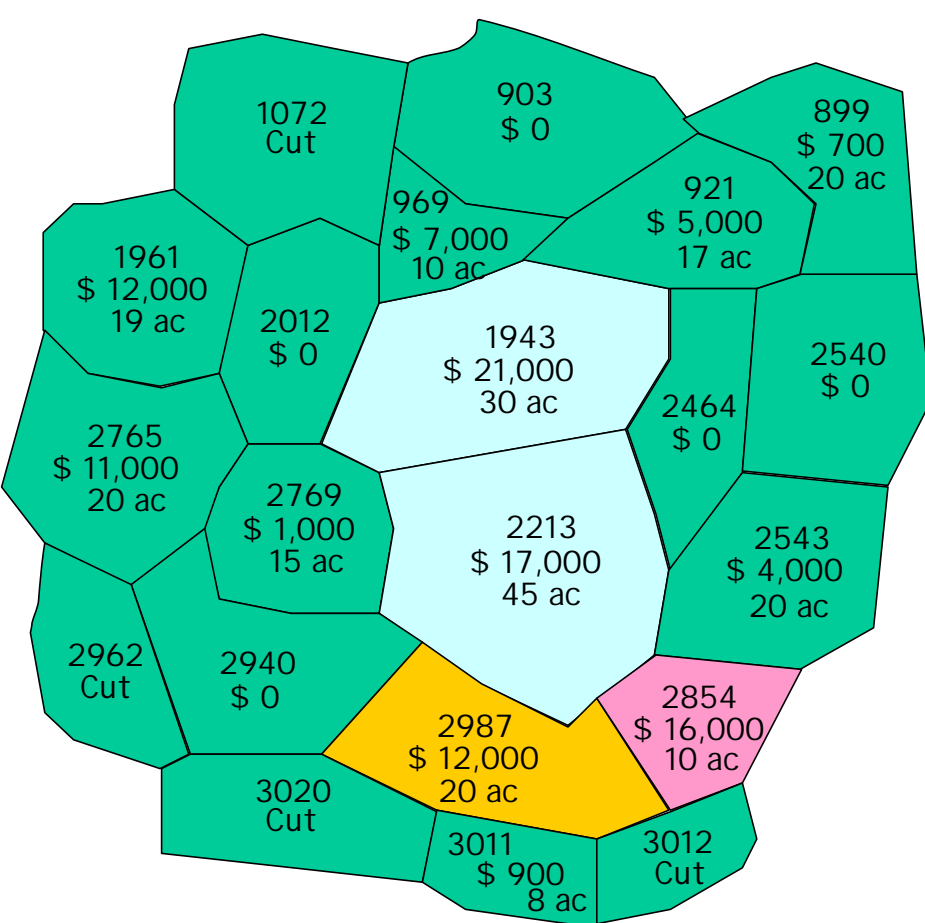
Selected	Block Pool	Block Size	Schedule
2213	921 2543 969 2854 2012 2940 2464 2987 2769	75 ac	1943 2213

Select highest valued unit (2854) from potential units. Do not add unit to block (constraint #2 violated).



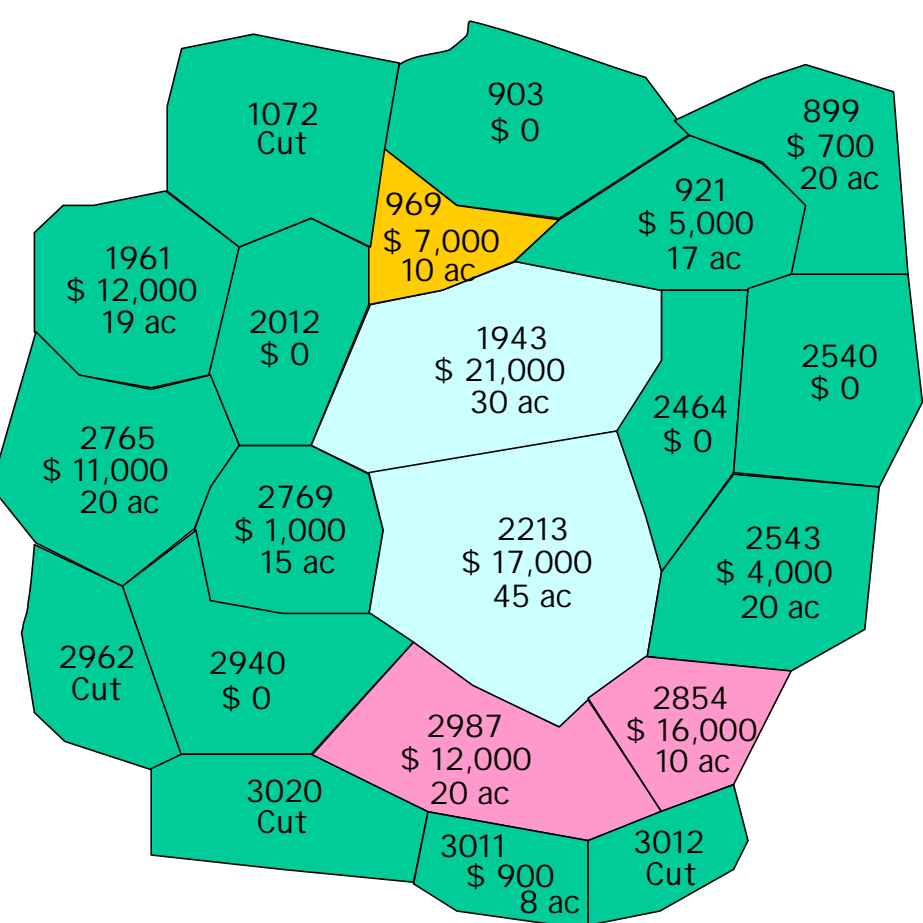
Selected	Block Pool	Block Size	Schedule
2854	921 2543 969 2940 2012 2987 2464 2769	75 ac	1943 2213

Select highest valued unit (2987) from potential units. Do not add unit to block (constraint #2 violated).



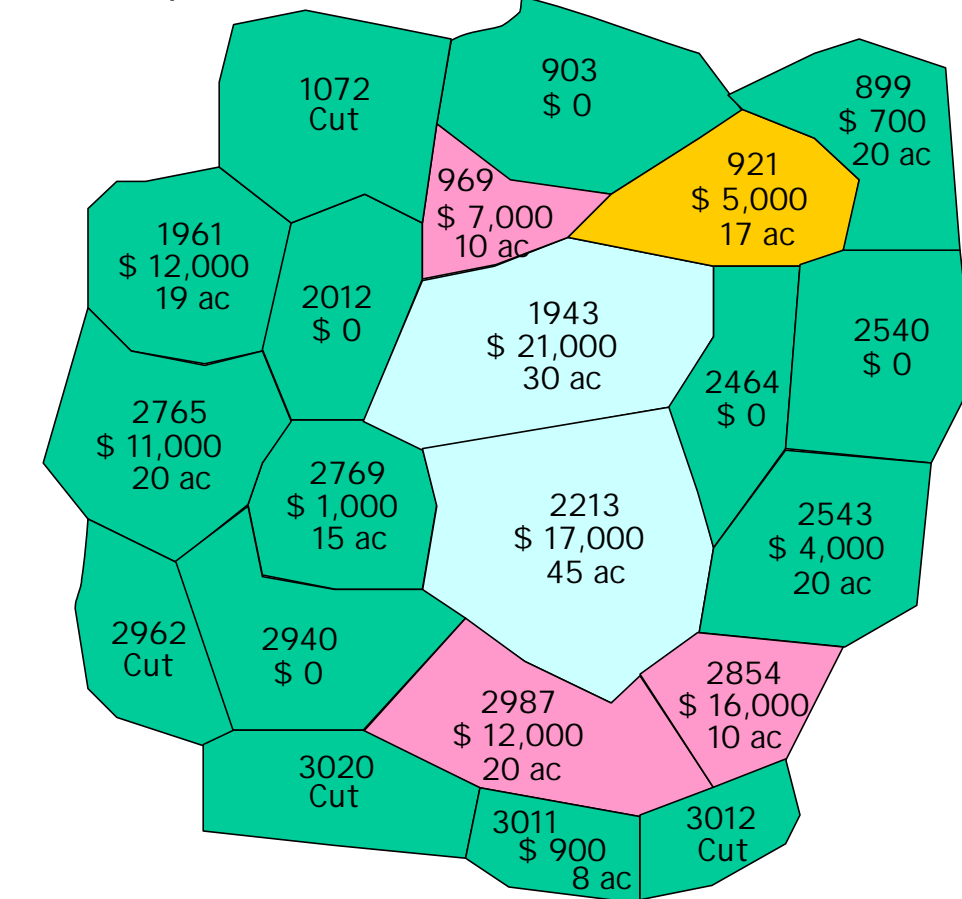
Selected	Block Pool	Block Size	Schedule
2987	921 2543 969 2940 2012 2464 2769	75 ac	1943 2213

Select highest valued unit (969) from potential units. Do not add unit to block (constraint #2 violated).



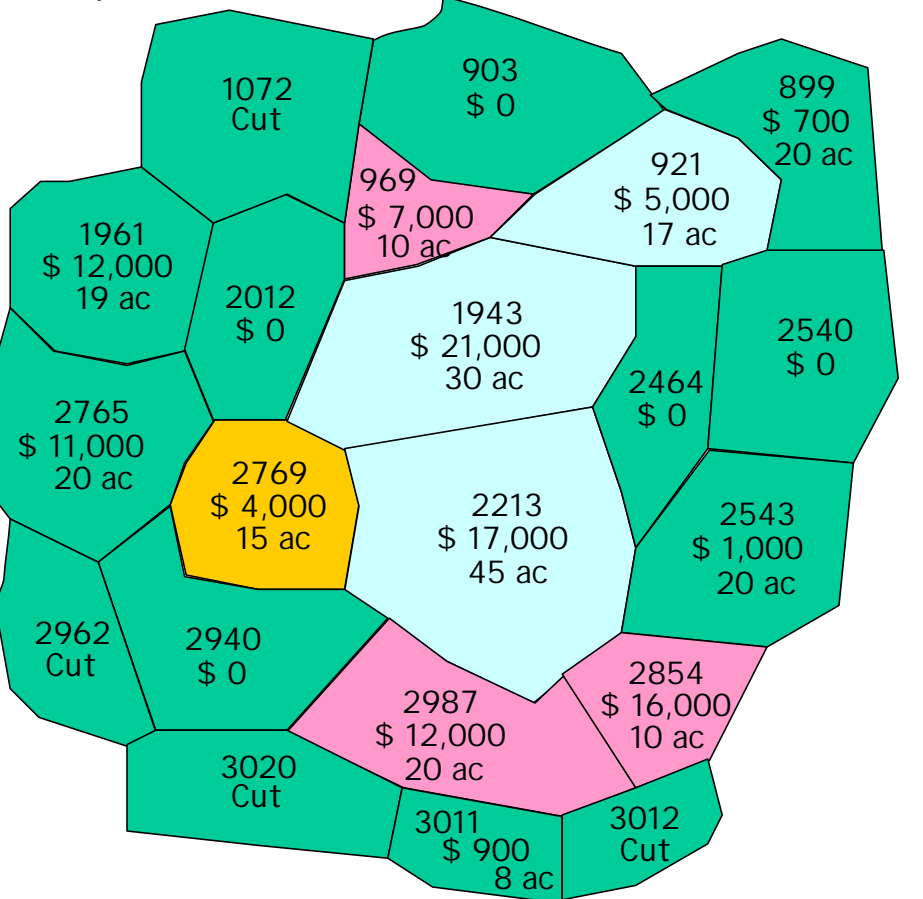
Selected	Block Pool	Block Size	Schedule
969	921 2543 2012 2940 2464 2769	75 ac	1943 2213

Select highest valued unit(921) from potential units. Add unit to block (no constraints violated). Adjust list of potential units for block.



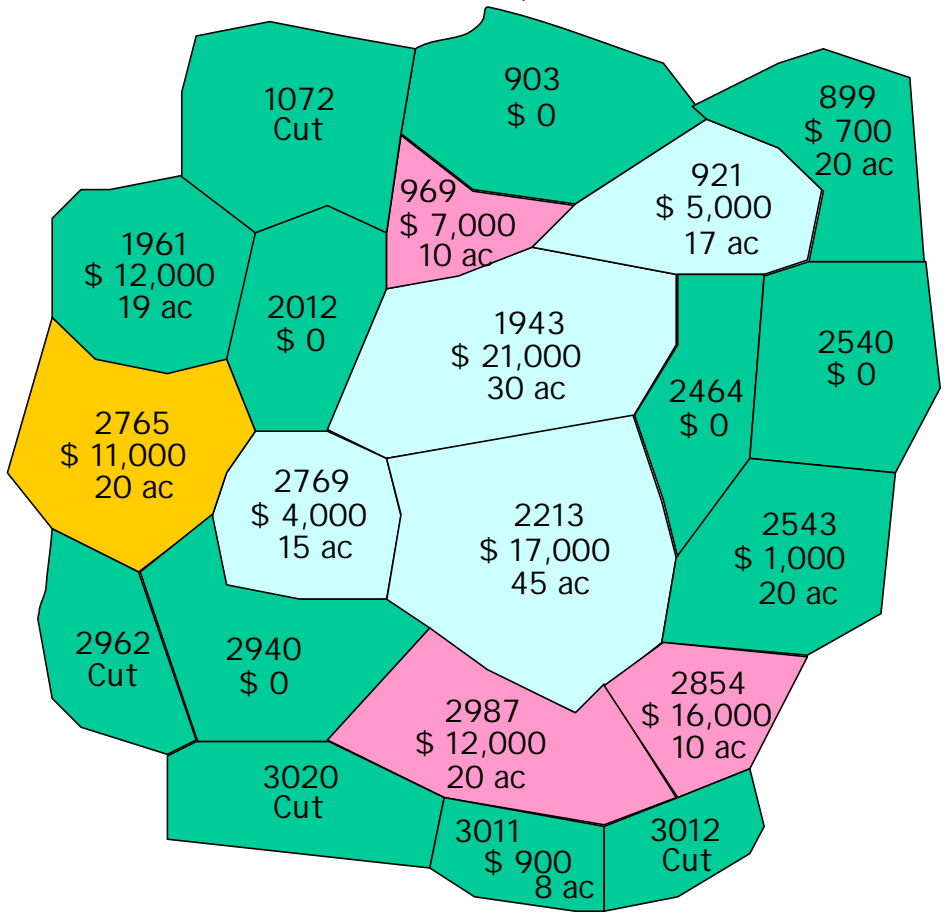
Selected	Block Pool	Block Size	Schedule
921	2012 2543 899 2464 2940 903 2769 2540	92 ac	1943 2213 921

Select highest valued unit(2769) from potential units. Add unit to block (no constraints violated). Adjust list of potential units for block.

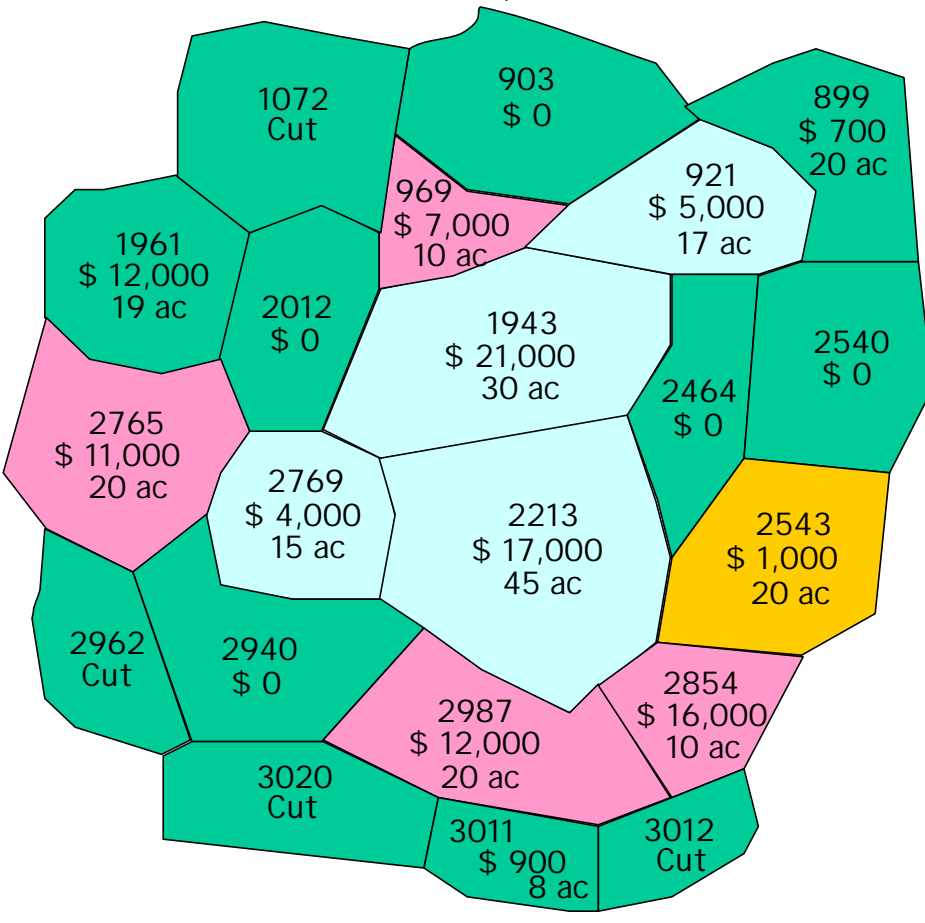


Selected	Block Pool	Block Size	Schedule
2769	2012 2543 899 2464 2940 903 2765 2540	107 ac	1943 2213 921 2769

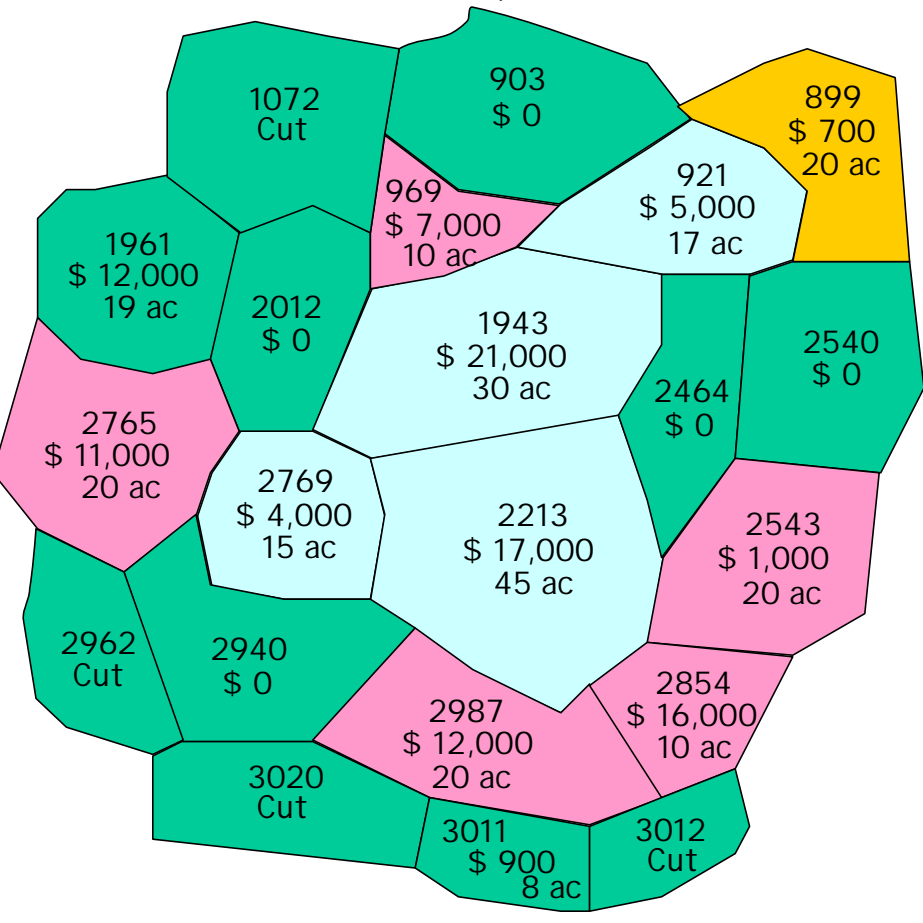
Select highest valued unit (2765) from potential units. Do not add unit to block (constraint #2 & #3 violated). Select highest valued unit (2543) from potential units. Do not add unit to block (constraint #2 & #3 violated). Select highest valued unit (899) from potential units. Do not add unit to block (constraint #3 violated). No other potential units have a positive value.



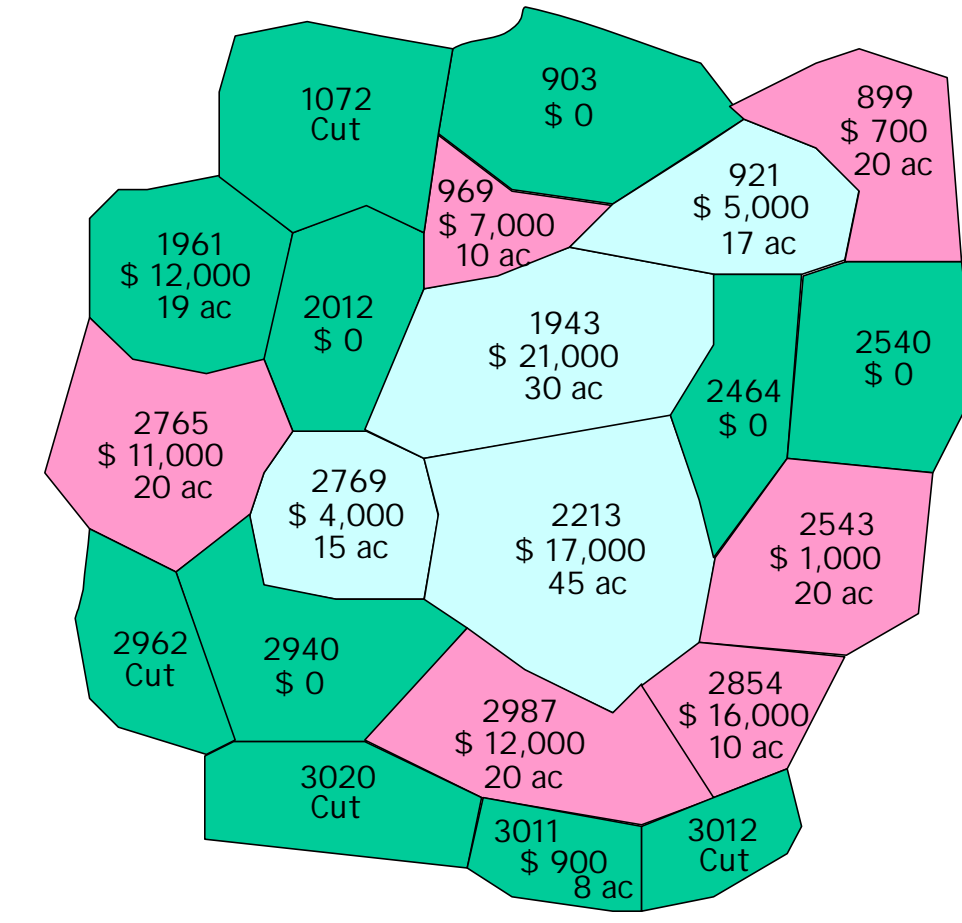
Selected	Block Pool	Block Size	Schedule
2765	2012 2543 899 2464 2940 2540	107 ac	1943 2213 921 2769



Selected	Block Pool	Block Size	Schedule
2543	2012 2940 899 2464 2540	107 ac	1943 2213 921 2769

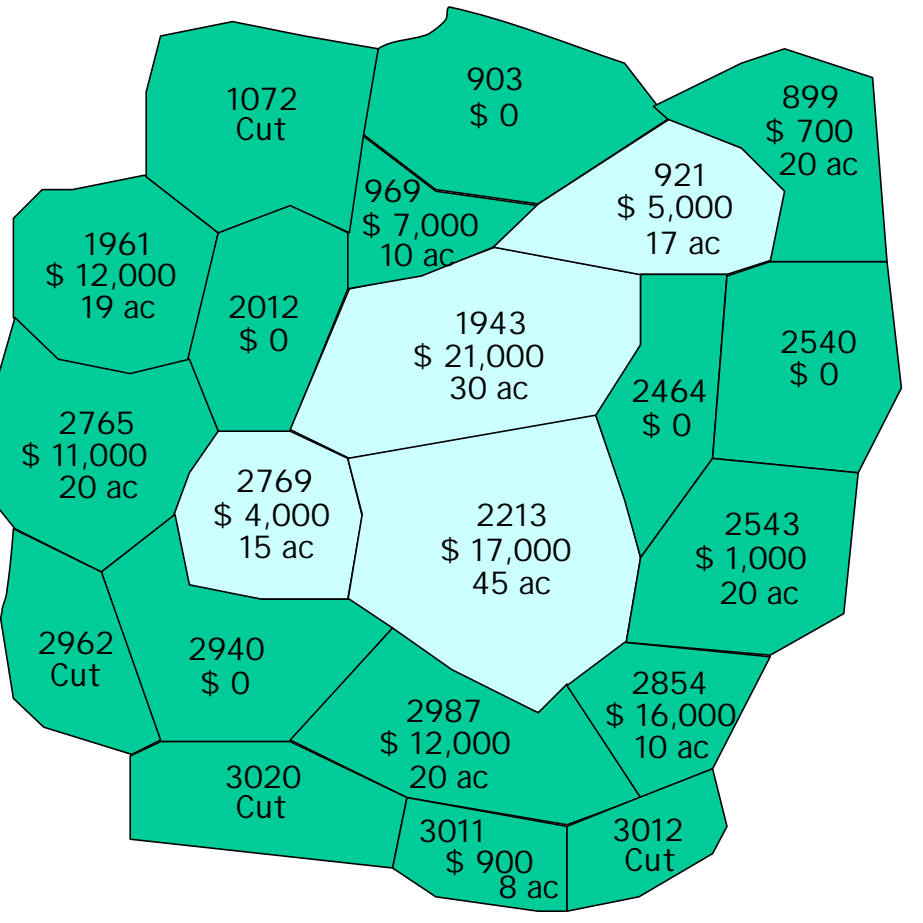


Selected	Block Pool	Block Size	Schedule
899	2012 2940 903 2464 2540	107 ac	1943 2213 921 2769



Selected	Block Pool	Block Size	Schedule
none	2012 2940 903 2464 2540	107 ac	1943 2213 921 2769

Schedule all units in the block.



Selected	Block Pool	Block Size	Schedule
		107 ac	1943 2213 921 2769