RIVERSIDE FOREST PRODUCTS LIMITED
TFL 49 - OKANAGAN TREE FARM LICENCE
MANAGEMENT PLAN No. 3

TIMBER SUPPLY ANALYSIS REPORT
ADDENDUM

Prepared by:

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Riverside Forest Products Limited

July 1998

Timberline
Forest Inventory Consultants

July 9, 1998

Ministry of Forests
Timber Supply Branch
595 Pandora Avenue
Victoria, BC
V8W 3E7

Attention: Bud Koch, RPF
Senior Timber Supply Forester

Dear Sirs,

Reference: Addendum - TFL 49 MP No. 3 Timber Supply Analysis

In response to you request, we are providing the enclosed Addendum to the Timber Supply Analysis Report for TFL 49.

Sincerely,

David M. Carson, RPF
Forester, Resource Analysis

This Addendum presents results from additional analyses runs requested by the Timber Supply Branch. Unless otherwise identified, they are based on the Current Management Scenario described in the Analysis Report.

1.1 Timber Harvesting Land Base Sensitivities

The effects on timber supply associated with increasing and decreasing the timber harvesting land base by five percent are demonstrated in Figure 1.1 and Table 1.1. In-order to keep the total area unchanged, the inoperable-but-productive land base is decreased and increased respectively.

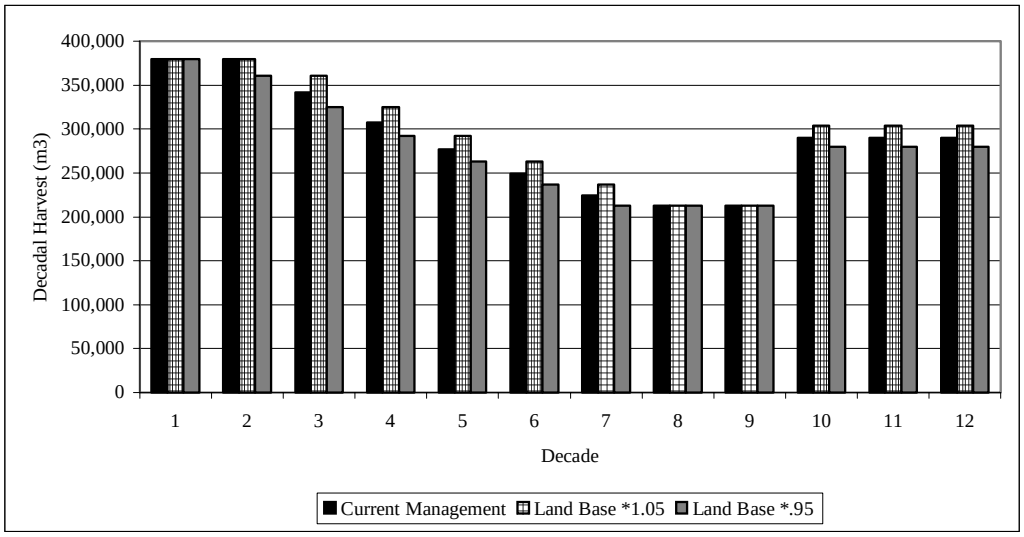

Figure 1.1 Harvest flow timber harvesting land base sensitivities

Short and long-term timber supply is effected but no changes are required in the first decade.

Table 1.1 Harvest schedules land base sensitivities (m^3/yr)

Decade	Current Management	Land Base increased by 5%	Land Base decreased by 5%
1	380,000	380,000	380,000
2	380,000	380,000	361,000
3	342,000	361,000	324,900
4	307,800	324,900	292,410
5	277,020	292,410	263,169
6	249,318	263169	236,852
7	224,386	236,852	213,167
8	213,167	213,167	213,167
9	213,167	213,167	213,167
10	290,000	304,000	280,000
11	290,000	304,000	280,000
12	290,000	304,000	280,000

1.2 Visual Quality Objectives

Three sensitivities were requested. In the first, the green-up height for VQO zones is increased to six metres from five. This resulted in no change from the Current Management Scenario. The other two involve increasing and decreasing the maximum disturbance level by three percent. Figure 1.2 presents the harvest levels achieved by these analyses. Increasing the allowable disturbance had no short-term effect but small impacts thereafter. Decreasing the maximum disturbance necessitated a slight lowering the harvest in decade two and throughout the short and mid-term. Table 1.2 provides the actual harvest values.

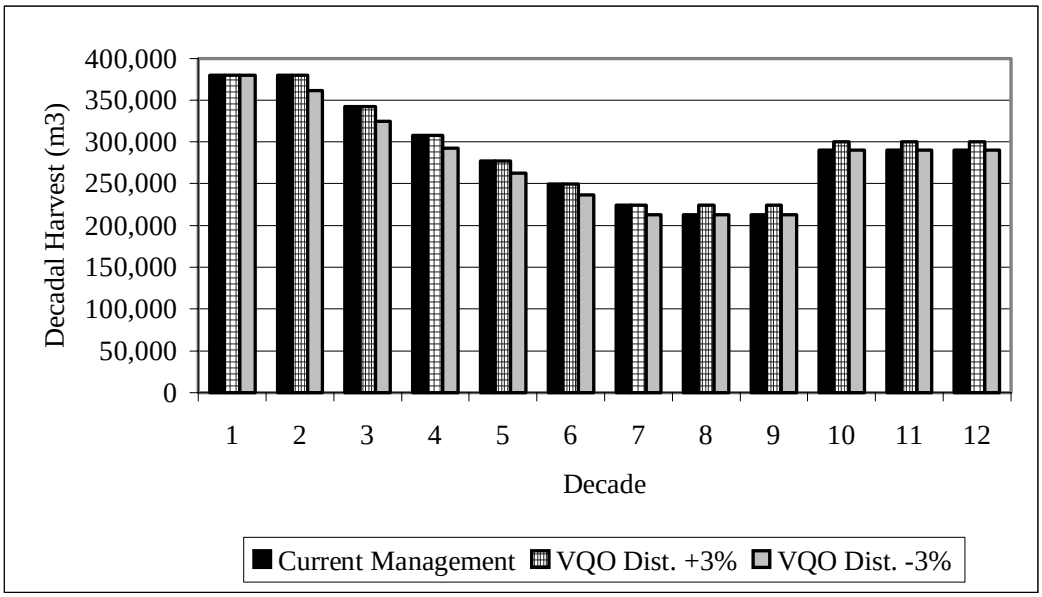

Figure 1.2 Harvest flow VQO disturbance sensitivities

Table 1.2 Harvest schedules VQO disturbance sensitivities (m^3/yr)

Decade	Current Management	Max. Disturbance + 3%	Max. Disturbance - 3%
1	380,000	380,000	380,000
2	380,000	380,000	361,000
3	342,000	342,000	324,900
4	307,800	307,800	292,410
5	277,020	277,020	263,169
6	249,318	249,318	236,852
7	224,386	224,386	213,167
8	213,167	224,386	213,167
9	213,167	224,386	213,167
10	290,000	300,000	290,000
11	290,000	300,000	290,000
12	290,000	300,000	290,000

1.3 Landscape Biodiversity

The Current Management Scenario addresses landscape biodiversity by assigning low emphasis to all landscape. This sensitivity uses an average of low, intermediate and high emphasis levels based on the 45/45/10 breakdown anticipated by the FPC. Table 1.3 provides the weighted (45/45/10) average old seral stage biodiversity requirements based on the low emphasis requirement reduced by 1/3 and fully implimented.

Table 1.3 Landscape biodiversity – old requirements

Group	Low 1/3 level		Low Fully Implimented	
	% of Landscape	Age (yr.)	% of Landscape	Age (yr.)
NDT3				
MS	>10.5	>140	>14.7	>140
ESSF	>10.5	>140	>14.7	>140
ICH	>10.5	>140	>14.7	>140
NDT4				
IDF	>9.7	>250	>13.6	>250
PP	>9.7	>250	>13.6	>250

Figure 1.3 provides analysis results with the low emphasis constraint (only) is reduced by 2/3 throughout the analysis time frame. A very small midterm impact is detected. Actual harvest values are to be found in Table 1.4.

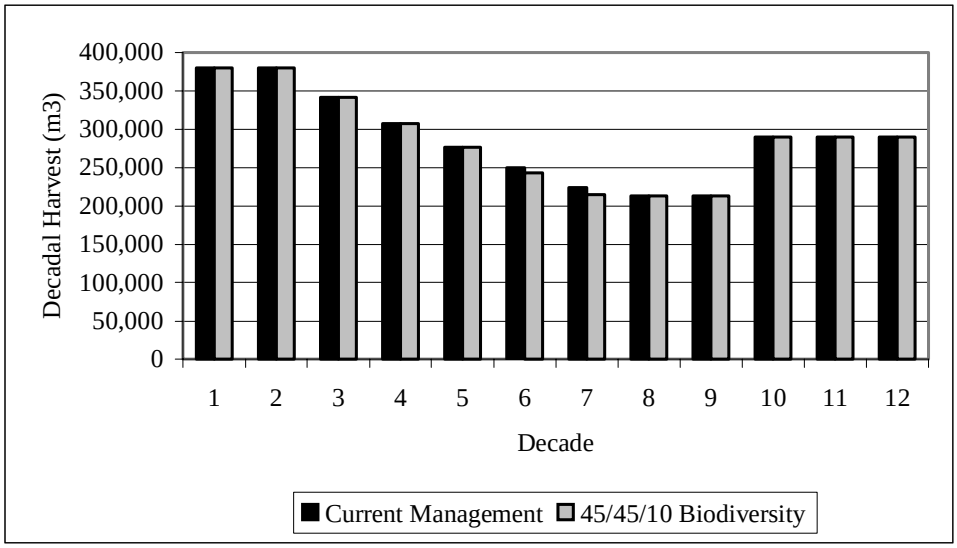

Figure 1.3 Low biodiversity emphasis at 1/3 level

Table 1.4 Harvest schedule low biodiversity at 1/3 value (m^3/yr)

Decade	Current Management	Low only at 1/3 Value
1	380,000	380,000
2	380,000	380,000
3	342,000	342,000
4	307,800	307,800
5	277,020	277,020
6	249,318	243,778
7	224,386	214,524
8	213,167	213,167
9	213,167	213,167
10	290,000	290,000
11	290,000	290,000
12	290,000	290,000

This sensitivity applied the 2/3 reduction to the low emphasis portion of the prorated constraint throughout the 250-year modeling period. This despite the fact that it is meant to be in-place for the first rotation only. To ensure that the full low emphasis constraint is being met, as much as is possible within the averaging methodology, the analysis was re-run with the same dictated harvest schedule and no 2/3 reduction. Other than a shortfall in decades 7 and 8 the harvest schedule could be maintained. This indicates that the full low emphasis requirement is being met.

Figure 1.4 and 1.5 provide the stock and harvest levels over time with the two runs described above.

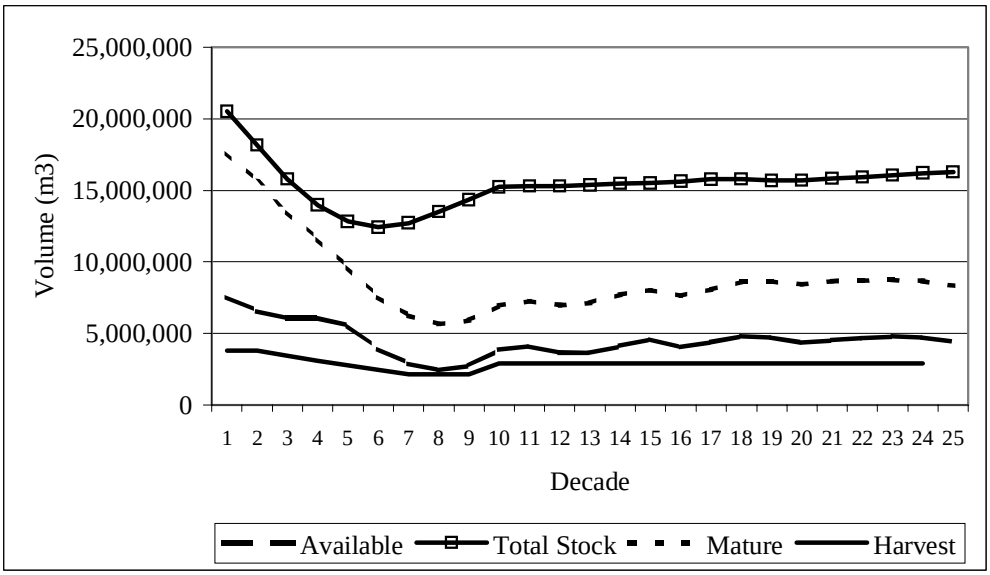

Figure 1.4 Stock and decadal harvest levels – 1/3 low

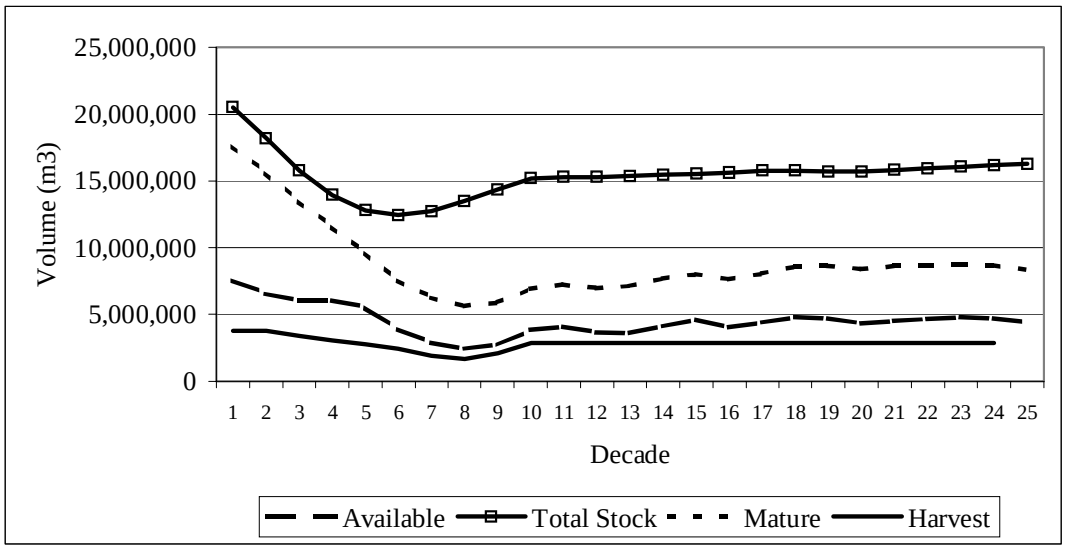

Figure 1.5 Stock and decadal harvest levels – low fully implemented

1.4 Root Rot Sensitivities

The ICH and IDF biogeoclimatic zones are known to have increased incidence of root rot. The MoF estimates individual stand volumes to be reduced by 20 to 30 percent. This sensitivity will test the impacts of decreased managed stand yields due to root rot. The ICH and IDF represent 39% of the TFL. Incremental reductions to yields of 20% and 30% when prorated to the entire TFL are 7.8% and 11.755 respectively.

Figure 1.6 and Table 1.5 provide details of the harvest schedule possible with managed stand yields reduced accordingly.

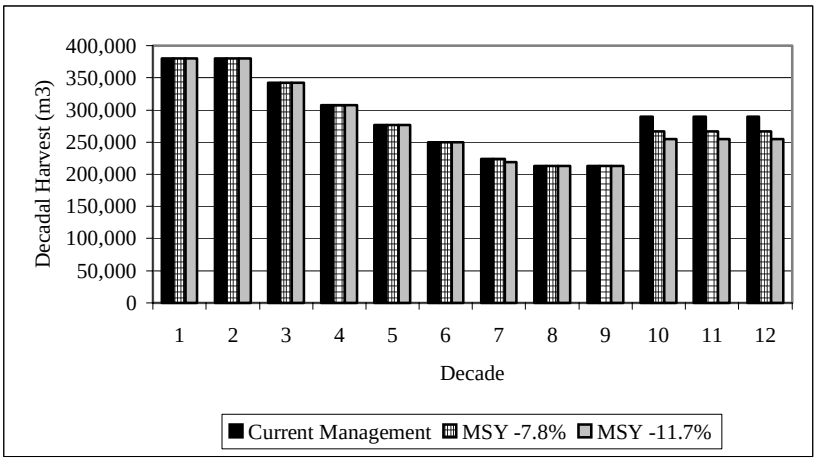

Figure 1.6 Root rot sensitivities

Table 1.5 Harvest schedule root rot sensitivities (m^3/yr)

Decade	Current Management	MSY –7.8%	MSY -11.75
1	380,000	380,000	380,000
2	380,000	380,000	380,000
3	342,000	342,000	342,000
4	307,800	307,800	307,800
5	277,020	277,020	277,020
6	249,318	249,318	249,318
7	224,386	224,386	219,400
8	213,167	213,167	213,167
9	213,167	213,167	213,167
10	290,000	267,000	255,000
11	290,000	267,000	255,000
12	290,000	267,000	255,000

Only long-term impacts are significant.

1.5 Regenerated Stand Yields Sensitivity

Regenerated yields are adjusted up and down by 10%. Analysis results are presented in Figure 1.7 and Table 1.6.

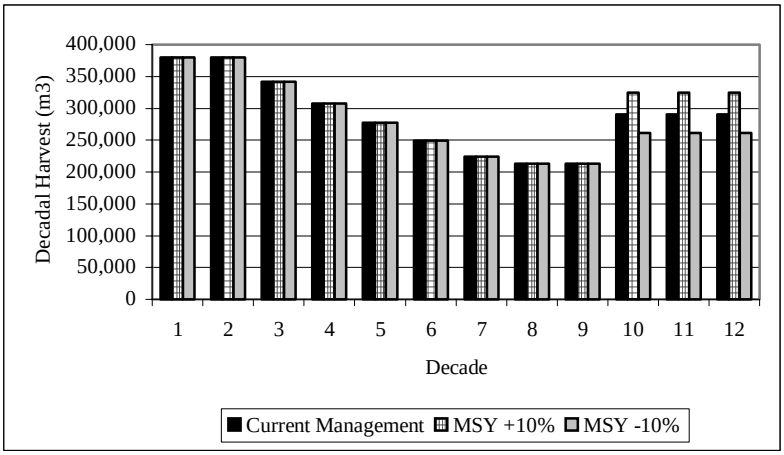

Figure 1.7 Harvest flow managed stand yield sensitivities

Table 1.6 Harvest schedule managed stand yield sensitivities (m^3/yr)

Decade	Current Management	MSY +10%	MSY -10%
1	380,000	380,000	380,000
2	380,000	380,000	380,000
3	342,000	342,000	342,000
4	307,800	307,800	307,800
5	277,020	277,020	277,020
6	249,318	249,318	249,318
7	224,386	224,386	224,386
8	213,167	213,167	213,167
9	213,167	213,167	213,167
10	290,000	325,000	261,000
11	290,000	325,000	261,000
12	290,000	325,000	261,000

Significant long-term harvest reductions result. Short-term impacts are underestimated as changes in maturity and green-up ages that may be associated with improved yields are not represented in the analysis.

1.6 Alternate Harvest Forecasts Sensitivity

Harvest flow in any analysis is subjective and based on assumptions made by the analyst. The Current Management Scenario was based on an initial harvest level equal to the current AAC and reductions from that level limited to 10%. Three alternate harvest flow scenarios are presented here (Figure 1.8 and Table 1.7) using all other inputs unchanged from the Current management Scenario.

'High as possible' refers to maximizing the initial harvest level while maintaining the minimum mid-term harvest level. 'Fast Drop' refers to starting at the current initial harvest rate but dropping to them mid-term level as quickly as possible. 'Even flow' is one harvest level throughout the analysis period.

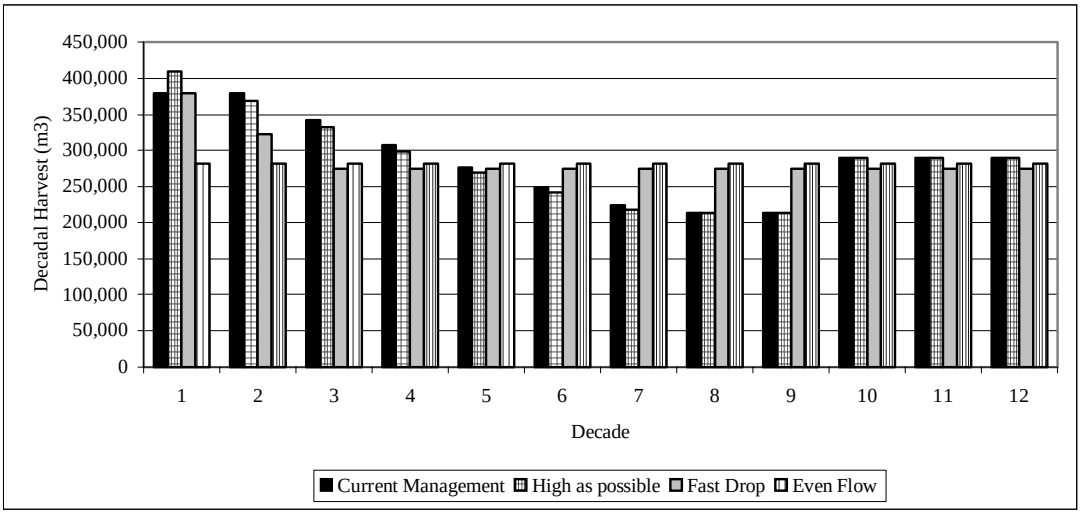

Figure 1.8 Various harvest flow policies

Table 1.7 Harvest schedules various harvest flow policies (m^3/yr)

Decade	Current Management	Initially as High as Possible	Faster Drop	Even Flow
1	380,000	410,000	380,000	282,000
2	380,000	369,000	323,000	282,000
3	342,000	332,100	274,550	282,000
4	307,800	298,890	274,550	282,000
5	277,020	269,001	274,550	282,000
6	249,318	242,101	274,550	282,000
7	224,386	217,891	274,550	282,000
8	213,167	213,533	274,550	282,000
9	213,167	213,533	274,550	282,000
10	290,000	290,000	274,550	282,000
11	290,000	290,000	274,550	282,000
12	290,000	290,000	274,550	282,000

1.7 Minimum Harvest Ages Sensitivity

Minimum harvest age is decreased by 10% for all existing and managed stand analysis units. Figure 1.9 and Table 1.8 demonstrates the mid-term impact.

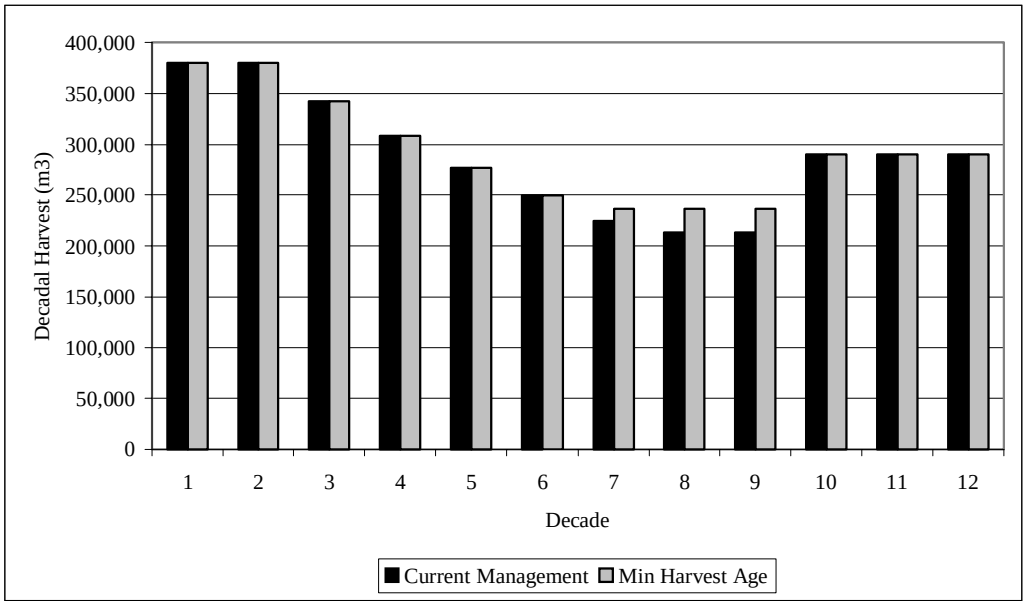

Figure 1.9 Harvest flow with minimum harvest ages decreased by 10%

Table 1.8 Harvest schedule minimum harvest age sensitivity (m^3/yr)

Decade	Current Management	Minimum Harvest ages less 10%
1	380,000	380,000
2	380,000	380,000
3	342,000	342,000
4	307,800	307,800
5	277,020	277,020
6	249,318	249,318
7	224,386	236,852
8	213,167	236,852
9	213,167	236,852
10	290,000	290,000
11	290,000	290,000
12	290,000	290,000