Executive Summary

In 2011, Montana’s 62nd Legislature passed House Bill 619 (since codified in 87-1-201 and 87-1-621, MCA), which revised MT-FWP’s forest management laws by requiring the calculation of an annual sustained yield on MT-FWP lands. Pursuant to this law, MT-FWP contracted with Mason, Bruce and Girard, Inc. to perform a forest inventory and an annual sustained yield calculation on the Department’s forest land.

Approximately 360,000 acres of MT-FWP land was included in this study and from that, about 151,000 acres are considered to have potential commercial value. From that commercial forest land base, about 57,000 acres are available for harvest and it is these acres that contribute to the annual sustained yield calculation.

Currently, the timber inventory on those 57,000 acres is approximately 272 million board feet (MMbf). Available acres and timber volume are distributed across the state as follows:

<table>
<thead>
<tr>
<th>Region</th>
<th>Commercial Forested Acres</th>
<th>Commercial Forested Acres Available for Harvest</th>
<th>Timber Volume (Mbf) on Available Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10,986</td>
<td>8,227</td>
<td>55,302</td>
</tr>
<tr>
<td>2</td>
<td>81,831</td>
<td>37,875</td>
<td>152,437</td>
</tr>
<tr>
<td>3</td>
<td>46,337</td>
<td>10,171</td>
<td>60,011</td>
</tr>
<tr>
<td>4</td>
<td>11,426</td>
<td>659</td>
<td>3,609</td>
</tr>
<tr>
<td>5</td>
<td>896</td>
<td>472</td>
<td>794</td>
</tr>
<tr>
<td>7</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>151,477</td>
<td>57,403</td>
<td>272,153</td>
</tr>
</tbody>
</table>

Growth and yield modeling utilized the forest inventory data, which was then incorporated into a Forest Management Model used to calculate the annual sustained yield. The model maximizes net present value of timber harvests while meeting constraints designed to reflect the legal and administrative policies, and management objectives of MT-FWP.

Sustained yield is typically thought of as the sustained harvest level that managed forest land can support over the long-term (50+ years). Because most of MT-FWP’s forest land hasn’t been in active management, many stands are currently either over-stocked or under-stocked. Due to the characteristics of these stands, this study provides a short-term and a long-term sustained yield. It is a usual and customary practice to express sustained yield in terms of an annual volume, and that convention is followed in this study. Harvest opportunities on several units, however, are small enough that the annual volume would not support a viable timber sale. Sales on those units are expected to be less frequent in order to have enough volume to make a viable timber sale.

In the short-term (<50 years), under-stocked stands will have less of a harvest as stands grow and reach a point in time where a commercial thin is appropriate. Alternatively, more harvest will be scheduled in over-stocked stands to bring them down to desired stocking levels. Over the long-term (>50 years), stands will eventually reach regulated stocking conditions resulting in a relatively consistent annual sustained yield moving forward through time.
With this in mind, the following table shows the short-term and long-term annual sustained yield on each management unit included in this study:

<table>
<thead>
<tr>
<th>Region</th>
<th>Unit</th>
<th>Unit Type</th>
<th>Available Acres</th>
<th>Short-term SYC (Mbf/Year)</th>
<th>Long-term SYC (Mbf/Year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bull River</td>
<td>WMA</td>
<td>991</td>
<td>53</td>
<td>129</td>
</tr>
<tr>
<td>1</td>
<td>Kootenai/Falls</td>
<td>WMA</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1</td>
<td>Kootenai/West</td>
<td>WMA</td>
<td>881</td>
<td>152</td>
<td>103</td>
</tr>
<tr>
<td>1</td>
<td>Kootenai/Woods Ranch</td>
<td>WMA</td>
<td>406</td>
<td>46</td>
<td>37</td>
</tr>
<tr>
<td>1</td>
<td>Mount Silcox</td>
<td>WMA</td>
<td>632</td>
<td>92</td>
<td>62</td>
</tr>
<tr>
<td>1</td>
<td>North Swan Valley</td>
<td>WMA</td>
<td>1,375</td>
<td>172</td>
<td>142</td>
</tr>
<tr>
<td>1</td>
<td>Ray Kuhns</td>
<td>WMA</td>
<td>954</td>
<td>120</td>
<td>94</td>
</tr>
<tr>
<td>1</td>
<td>Lake Mary Ronan</td>
<td>State Park</td>
<td>104</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>1</td>
<td>Lone Pine</td>
<td>State Park</td>
<td>215</td>
<td>30</td>
<td>19</td>
</tr>
<tr>
<td>1</td>
<td>Thompson Chain Of Lakes (East)</td>
<td>State Park</td>
<td>287</td>
<td>3</td>
<td>23</td>
</tr>
<tr>
<td>1</td>
<td>Thompson Chain Of Lakes (West)</td>
<td>State Park</td>
<td>1,300</td>
<td>107</td>
<td>119</td>
</tr>
<tr>
<td>1</td>
<td>Wayfarers</td>
<td>State Park</td>
<td>27</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>West Shore</td>
<td>State Park</td>
<td>86</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>1</td>
<td>Wild Horse Island</td>
<td>State Park</td>
<td>870</td>
<td>97</td>
<td>82</td>
</tr>
<tr>
<td>1</td>
<td>Kokanee Bend</td>
<td>FAS</td>
<td>47</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>1</td>
<td>Old Steel Bridge</td>
<td>FAS</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1</td>
<td>Swan River</td>
<td>FAS</td>
<td>52</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Blackfoot-Clearwater 1</td>
<td>WMA</td>
<td>1,438</td>
<td>133</td>
<td>110</td>
</tr>
<tr>
<td>2</td>
<td>Blackfoot-Clearwater/Harpers Lake</td>
<td>WMA</td>
<td>6,686</td>
<td>440</td>
<td>364</td>
</tr>
<tr>
<td>2</td>
<td>Calf Creek</td>
<td>WMA</td>
<td>712</td>
<td>70</td>
<td>58</td>
</tr>
<tr>
<td>2</td>
<td>Fish Creek</td>
<td>WMA</td>
<td>9,763</td>
<td>341</td>
<td>321</td>
</tr>
<tr>
<td>2</td>
<td>Fish Creek</td>
<td>State Park</td>
<td>2,217</td>
<td>72</td>
<td>64</td>
</tr>
<tr>
<td>2</td>
<td>Garrity Mountain</td>
<td>WMA</td>
<td>3,360</td>
<td>88</td>
<td>368</td>
</tr>
<tr>
<td>2</td>
<td>Lost Creek</td>
<td>WMA + State Park</td>
<td>107</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Marshall Creek</td>
<td>WMA</td>
<td>8,692</td>
<td>522</td>
<td>431</td>
</tr>
<tr>
<td>2</td>
<td>Mount Jumbo</td>
<td>WMA</td>
<td>99</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Nevada Lake</td>
<td>WMA</td>
<td>396</td>
<td>36</td>
<td>19</td>
</tr>
<tr>
<td>2</td>
<td>Spotted Dog</td>
<td>WMA</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Threemile</td>
<td>WMA</td>
<td>4,070</td>
<td>353</td>
<td>292</td>
</tr>
<tr>
<td>2</td>
<td>Beavertail Hill</td>
<td>State Park</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Milltown</td>
<td>State Park</td>
<td>90</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Erskine</td>
<td>FAS</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Monture Creek</td>
<td>FAS</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>River Junction</td>
<td>FAS</td>
<td>44</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Stuart Mill Bay</td>
<td>FAS</td>
<td>201</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>3</td>
<td>Canyon Creek</td>
<td>WMA</td>
<td>1,696</td>
<td>78</td>
<td>65</td>
</tr>
<tr>
<td>3</td>
<td>Fleecer Mountain</td>
<td>WMA</td>
<td>460</td>
<td>39</td>
<td>19</td>
</tr>
</tbody>
</table>
Across the entire state, on acres available for harvest, this study calculated the total annual sustained yield in the short-term to be **4.1 million board feet per year** and **3.6 million board feet per year** in the long-term. These sustained yield calculations meet the intent of the enacted legislation as well as the policies, goals, and objectives specified by the Montana Department of Fish, Wildlife, and Parks. The results presented above represent the annual sustained yield on commercial forested acres available for harvest as determined by MT-FWP. This study also calculated the maximum biological yield and annual sustained yield on all commercial forested and operable acres. Those results are found within the body of this report.

It is important to realize that this plan represents a strategic level plan and is intended to establish guiding harvest levels. Implementing a plan like this would require another layer of planning, which would consider the operational issues associated with harvesting and could result in a harvest schedule different from the one presented here.

The following sections of this report explain the methods and rationale for this annual sustained yield calculation for MT-FWP.