Southwestern Ontario
Forestry Economics
by J.R. Irwin
(An information sheet prepared for woodlot owners)

In recent years, prices for hardwood logs have increased dramatically. In the late 1980's, prices for maple and ash hovered around $200 to $250 per thousand board feet. (One board foot is a piece of lumber 12 inches square and one inch thick) By the late '90's, prices had soared for many species to $1,000 per thousand, or $1.00 per board foot. Although prices have changed, many landowners are still unfamiliar with revenues and returns that can be realized from forest management in southwestern Ontario stands.

Foresters in Ontario have available to them considerable information from research in central Ontario. Much of this has come from research stations in Algonquin Park. There is not as much information available south of the precambrian shield, although a study done in 1972, funded by ARDA, looked at productivity of southern Ontario forests. When this data is compared to data from Algonquin, there are considerable differences in productivity between the two areas. However, when this ARDA study is compared to data from the Northeastern Forest Experimental Station of the U.S. Department of Agriculture, many similarities exist. Consequently, many foresters in southern Ontario use this American literature as a basis for forest management prescriptions.

One noteworthy USDA study, done several years ago, quotes the production potential of 90 cubic feet per acre per year net growth. Since there are 85 cubic feet of solid wood in a 128 cubic foot bush cord, (4 ft. X 4ft. X 8 ft.) this 90 cubic feet translates into approximately 1 cord per acre per year. Since one objective of management is to produce sawlogs and veneer, part of this volume growth should be used for logs rather than firewood. Of this volume growth of 90 cubic feet, approximately one half can be put on sawlog trees, and one half utilized as firewood. Half, or 45 cubic feet, of the cubic volume equals about 240 board feet of sawlog growth, Ontario Log Rule. (One cubic foot of wood = 5.35 board feet (fbm) Ontario rule).

Therefore, one can expect about 250 board feet, or 25% of 1,000 board feet as growth per acre, on "managed stands". Stands would be on average to better sites, and would have reasonably good growing stock and stand structure. At $800.00 per 1000 board feet, for standing timber, this means that one would expect to gain about $200.00 per acre per year in return, growing sawlogs and veneer. This would be realized as $2,000 per acre at each 10 year cutting interval. Such a harvest schedule should not reduce the growing stock to the point that future cuts are jeopardized. Through proper management, timber values per thousand should increase as quality of the stand increases, provided that the harvesting continually upgrades the growing stock by concentrating growth on the better trees. This growth and value return cannot be realized, in the long term, if stands are high-graded by removal of the best timber with no regard for the remaining stand, and no regard for future harvests. Commercial diameter limit cutting under tree cutting bylaws are usually high-grading operations. Diameter cuts are not a management system, and do not result in proper woodlot management.

In addition, fuelwood generated at the time of the cut would be the balance of the 90 cubic feet,

or 45 cubic feet per acre, or 450 cubic feet, five bush cords, at the time of tree harvest at the ten year cycle. This firewood would have a standing or bush value of $10 to $20 per cord or $50 to $100 per acre. However, if manufactured into cut, split wood, this five cords would generate about 15 to 18 face cords. (One face cord is 4 ft.
X 8 ft. X 12 to 16 inches, depending on cut length, or 32 to 41 cubic feet). If retailed, this should result in a net return after marketing, of $20.00 per face cord or $300 to $360 per acre. This translates into an additional annual return of $30.00 to $36.00 per acre in addition to the log value.

One thousand board feet of standing timber can be worth $800.00 as logs. If cut up into firewood, this would yield 2 bush cords of firewood worth about $20 to $40.00. (1,000 / 5.35 = 187 cubic feet / 85 = 2.2 bush cords) If cut and split, this would normally yield 6 to 7 face cords worth, at $55.00 per face cord, $330 to $385.00. When cost of production is deducted, the yield is $120 to $140 as profit. Obviously, there is more money in sawlogs than firewood, with a lot less work. When the sawlogs are sold as sawlogs, the unmerchantable tops of these sawlog trees should provide 1.5 bush cords of firewood per thousand board feet of timber. A 2,000 foot per acre cut would then yield 3 bush cords per acre, approximately, of firewood from tops.

If a landowner is interested in producing maple syrup, producers can generate about 1 litre of finished syrup per tap. Studies in recent years have put the cost of production at $9.00 to $10.00 per litre. If one litre is marketed at $14 to $15.00 per litre, the return is $5.00 per tap. For a woodlot with 50 taps per acre, this amounts to a return of $250.00 per acre per year, in addition to whatever is gained from wood sales.

Many local woodlot owners are realizing these types of returns from their woodlots. Unfortunately, many are not. Many local woodlot owners associations are trying to help their members take advantage of the benefits of woodlot management. They are compiling lists of professional consultants who offer woodlot management services. Local stewardship councils, in conjunction with the woodlot owners associations, conservation authorities, and the Ministry of Natural Resources, are putting together "self-help" information to assist landowners in their management. These people can be contacted, and information can be obtained, by contacting your local municipality and asking for the tree commissioner who administers the local tree cutting bylaw.

J. Irwin,
April, 1999