

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

PROPOSED SHERWIN BOWL

SKI AREA CAPACITY ESTIMATES

2-22-1974



By Mammoth Ranger District

John Harmening
Dick Austin

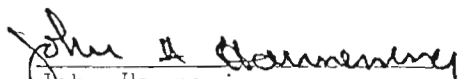
PROPOSED SHERWIN BOWL

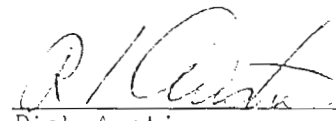
SKI AREA CAPACITY ESTIMATES

2-22-1974

By Mammoth Ranger District

John Harmening
Dick Austin


John Harmening
Winter Sports Specialist

 2-23-74
Dick Austin
District Ranger

SHERWIN CAPACITY ESTIMATES

Introduction and Summary:

This brief report represents a prediction of skier capacity for the proposed Sherwin Bowl Ski Area. The estimated best capacity, if designed for highest quality alpine skier experience, is approximately 12,000 skiers/day.

The area is located adjacent to the town of Mammoth Lakes, California and is primarily in sections 10, 11, 14, 15 and 23, T.4S.; R.27E., M.D.B. & M.

Total vertical elevation change is 3,740 feet, however, useable skiing elevation change is only slightly in excess of 3,200 vertical feet. Most popular long ski runs will vary between 2,000 feet and 2,500 feet and one to nearly three miles in length.

The terrain is good to excellent. Studies indicate that top quality snow is adequate. Occasionally snow making on lower beginner slopes may be a valuable supplement. There are controllable avalanche difficulties.

Sherwin can be thought of as comprising three units; east, center and west. All three units face due north and skier capacity is approximately equal in each.

Basis for Calculations:

The comments in the Introduction and Summary and the figures in the Calculations are based on study of maps, photographs, aerial photographs, aerial observation, team skiing, contractual and Forest Service environmental studies, winter sports criteria developed and published elsewhere, and on judgemental considerations.

Calculations were made by John Harmening on the basis of two separate criteria. The first criteria is terrain capacity as developed in the "Winter Sports Base Area Study" made by the Pacific Northwest Region of the Forest Service. The second is lift capacity in which the total number of well distributed uphill conveyances are multiplied by an average daily lift capacity figure.

The lowest total capacity figure was modified jointly by Dick Austin and John Harmening. The criteria for this adjustment are the probable constraints imposed because of geology and soils, vegetation and esthetics, deer migration habits and routes, and design for highest quality skiing experience.

Calculations:1. Estimates based on Terrain Criteria

The "Winter Sports Base Area Study" indicates the following terrain capacities:

Advanced Terrain	= 5 skiers/ac	= J.H. used 5 skiers
Intermediate Terrain	= 10-15 skiers/ac	= J.H. used 20 skiers
Beginner Terrain	= 20-35 skiers/ac	= J.H. used 30 skiers

Following are calculations using above figures and acreage delineated on attached map:

Advanced Terrain:	*300 ac x 5 sk/ac =	1500 skiers
Intermediate Terrain:	720 ac x 12 sk/ac =	8640 skiers
Beginner Terrain:	180 ac x 30 sk/ac =	<u>5400 skiers</u>
Total Capacity		15,540 skiers

* Actually much more advanced terrain exists but would probably never be needed because of skier ability ratios.

2. Estimates based on Daily Lift Capacity

Forest Service studies on Mammoth Mountain during the 1971-1972 wintersports season determined actual hourly lift capacity for each uphill conveyance on the mountain at that time. This was applied to the Skiers/Lift/Day capacity formula from the "Winter Sports Base Area Study" and a then current theoretical capacity was developed for Mammoth Mountain. An average daily lift capacity can be derived from this as follows:

Uphill conveyance	= 14 lifts, T-Bars, Gondola
Total lift capacity/day	= 10,063 skiers

Average daily lift capacity (10,063 sk ÷ 14 lifts) = *719/day/lift

* This is an average figure only and is different for each lift and can be dramatically effected by such as skier ability, vertical rise and hours of operation.

For the Sherwin Study, John Harmening therefore used the figure of 600 skiers/lift/day.

Following are calculations using above figure of 600 skiers/lift/day and number of uphill conveyances from attached map:

25 Uphill conveyances x 600 skier/lift/day = 15,000 skier/day

3. Estimate Based on Modification for Constraints

This is the figure we like to use and feel most comfortable with. It represents a judgemental adjustment of the 15,000 skiers/day capacity figure based on anticipated constraints caused by environmental, esthetic and design considerations.

Our estimated most logical capacity is 12,000 skiers.

Description of Map

The attached map is on a Monoplan base which is an enlargement of the standard Geological Survey Map 15' quad with 80' contours.

Lifts are shown in likely locations for capacity estimating purposes and are in no way to be considered a ski area design.

The ski terrain delineations by category are the best estimates available at present. More detailed work on the ground with large scale photos and large scale 10' to 20' contour map can refine these greatly.

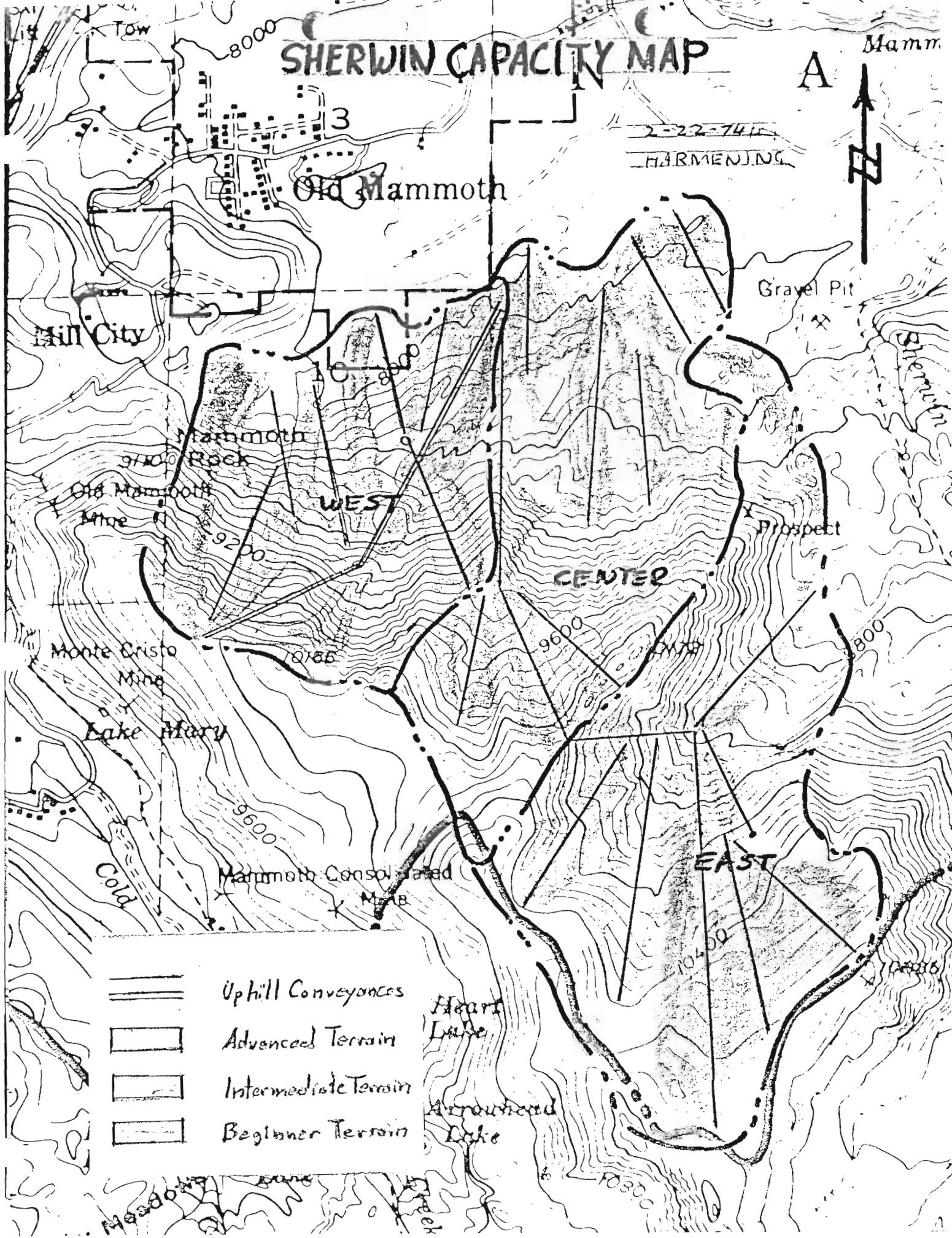
The map is broken into three units (east, center and west) for reference purposes only, not for any particular design suggestions.

SHERWIN CAPACITY MAP

A



2-22-74
HARMENING



- Uphill Conveyances
- Advanced Terrain
- Intermediate Terrain
- Beginner Terrain

Heart Lake
Arrowhead Lake

Meadows

Forest

Appendix I

Report Personnel's Background Experience

John Harmening (Mammoth District Winter Sports Specialist) - since about 1962 has been deeply involved in administration of National Forest winter sports sites, avalanche control and snow safety and planning of winter sports. Approximately 12 years experience.

Dick Austin (Mammoth District Ranger) - since 1964 has been responsible for administration of National Forest winter sports site at Mammoth and Donner Summit areas and directed studies for several proposed winter sports sites. Approximately 10 years experience.

Others (not directly involved with this brief report) who have studied Sherwin. These are winter sports specialists and operators, environmentalist, professionals in environmental science and others who have contributed verbal and written reports in aspects and implications of Sherwin. In total their years of experience are many.