R9 copy

Society of Americ Foresters Committee on Natura reas

NATURAL AREA NOMINATION FORM

Instructions: Complete and forward to Committee along with a sketch type map of the area and a location map (highway map) indicating general location of proposed area. Information on past ownership and management, scientific or educational use, hydrologic features, rare plants or animals or other pertinent facts should be included. Please type. Photos, if available, will be welcomed.

Name of Proposed Natural Area: The Bowl Natural Area

Location: State: New Hampshire County: Grafton Total Area: 510 Acres

Nearest Town and Distance: Mt. Washington (Name Observetery) 23 (Miles)

Agency/Owner: USDA Forest Service

Administrative Unit: White Mountain National Forest
Natl. Forest, Natl. Park, Wildlife Refuge, State, Univ., etc.

Address: 719 Main St., P.O. Box 638 Laconia, NH 03824

✓ Permanence Afforded How: L-20 (36 CFR 251.23)
Laws, Regulation, Will, Endowment, Letter of Agreement, etc.

Primary Forest Type:

SAF: SAF - 32 (Type Number) Red Spruce (Type Name) 398 398 (Type Area) Acres

Dominant Trees: D.B.H. _____ Hgt. _____ Age _____

Other Important Types or Vegetation:

	Dominant Trees:	Name	D.B.H.	Hgt.	Age	Area
SAF Type, Number and Name:	SAF 25	Sugar Maple - Beech - Yellow Birch				96
	SAF 18	Paper Birch				16

Barren, Water, Buffer Zone, etc: ~~55~~ Acres ~~bare rock outcrops~~
Area and Nature

Description of Vegetation and Other Distinguishing Characteristics: Southern boundary area is pure spruce; lower elevations are pure hardwood

Elevation: 1900 - 3985 (Range and Average) Feet Topography: steep (Level, Rolling, Steep, etc.)

Geology and Soils igneous; syenite G-11; G-16
Alluvial, Volcanic, Moraine, Podsol, Serpentine, Etc.

The Bowl

Justification Briefly outline why this tract should be designed an SAF natural area:

It constitutes one of the few readily accessible areas which still contain virgin forests representing all the principal timber types of the region, including spruce and hardwood mixtures.

Submitted by: Russell M. Burns Title: Forest Service RNA Coordinator Date: _____

Mailing Address: USDA Forest Service P.O. Box 2417

Washington, D.C. 20013

Approved: _____
Section Natural Area Chairman or
Natural Area Liaison Officer

Approved for Listing in Register of SAF Natural Areas: _____ _____
Chairman,
Committee on Natural Areas Date

Committee on Natural Areas, Society of American Foresters,

5400 Grosvenor Lane, Washington, D.C. 20014

R-9, NE Station
Copy (Original in Ledger)

K-2
NE
NEW HAMPSHIRE
Sept. 28, 1931
TMIS 00110

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

Run Burns

1980 SAF	acres	ha	1966 K	acres	ha
18	16	6.5	98	16	6.5
25	96	38.9	99	494	199.9
32	398	161.1			
TOTAL	510	206.4		510	206.4

ESTABLISHMENT REPORT FOR

THE BOWL RESEARCH NATURAL AREA

Commercial Forest Land
385 acres

Within the White Mountain National Forest
Grafton County, New Hampshire

U. S. GOVERNMENT PRINTING OFFICE : 1980 O - 309-842

FS-6200-7 (10/73)

Bowl Natural Area
White Mountain National Forest

- NE
atural Areas

July 29, 1931

MORANDUM for the Forester:

In accordance with instructions accompanying Regulation L-20 as modified August , 1930, and L-Classification, Natural Areas letter of July 2, 1931, we wish to ecommend the setting aside as a natural area the tract described in the following eport:

escription of area proposed:

The area proposed constitutes the western half of what is known as the "Bowl" hich is a deep valley on the east side of Mount Whiteface. The tract lies in the outheast corner of the town of Waterville, in Grafton County, New Hampshire. It omprises roughly the southeast corner of Lot 48, the eastern one-third of Lot 49, he western two-thirds of Lot 52, and the southwest corner of Lot 53. Mount Whiteace on the western boundary of the tract lies in latitude 43° 56" north, longitude 1° 25" west. The boundary of the proposed tract is as follows:

From the junction of Swift Brook and Wiggins Trail north on Swift Brook to the height of land; thence west and south on Rollins Trail along the height of land to the peak of Mount Whiteface; thence south on Blueberry Ledge Trail along the height of land, and east on Wiggins Trail to the point of beginning.

The total area involved is approximately 510 acres, all of which is within the hite Mountain National Forest. It constitutes one of the few readily accessible reas which still contain virgin forests representing all the principal timber ypes of the region, including spruce and hardwood mixtures.

creage of dominant cover types:

Acreage of the principal forest types, as determined by a cruise made by the hite Mountain National Forest in 1930, is as follows:

ommercial Forest:	Spruce	311 acres	
	Beech, Birch, and Maple	74 "	385 acres
on-Commercial Forest:			
	Spruce	32 "	
	White birch	16 "	
	Beech, Birch, and Maple	22	70 acres
ub-Alpine:			55 acres
			510 acres

Physical and Climatic Conditions:

The elevation of Swift Brook at its junction with Wiggins Trail on the southastern corner of the tract is about 1900 feet. From this point the ground rises steeply to a maximum elevation of 3988 feet at the summit of Mount Whiteface. Spruce and hardwood types are largely restricted to elevations below 2500 feet, but marchantable spruce timber runs up well above 3000 feet. The topography is exceedingly steep at the higher elevations, but the ground flattens out somewhat in the valley bottom. The slopes are chiefly toward the east and south, but exposures toward almost all points of the compass are provided on some of the spurs which project into the valley. The ground is generally rocky with the soil made up in a large part of an accumulation of organic matter in the crevices. Most of the area is covered with deep humus and the soil shows typical podsol formation.

Precipitation is between 45 and 50 inches per year. The normal annual temperature in this vicinity is about 40 degrees with minimums as low as 32 degrees below zero, and maximums around 90 degrees. In mountain valleys such as this frosts are likely to occur in almost any month of the year. The tract lies in the zone where the growing season may be considered about 125 days, from the middle of May to the middle of September.

Forest values:

The stand of timber on the area as determined by the cruise of 1930 is as follows:

Spruce, commercial	4,783 M feet, board measure	
Spruce, inaccessible	401 M " " "	
Hemlock	16 M " " "	
Total, Softwoods		5,200 M ft. B.M.
Beech	230 M feet, board measure	
Yellow birch	362 M " " "	
Sugar maple	127 M " " "	
Paper birch	277 M " " "	
Soft maple	3 M " " "	
White ash	1 M " " "	1,000 M ft. B.M.
	Total, all species	6,200 M ft. B.M.

The sub-alpine type occurs in a narrow band along the high ridges. It consists in part of bare rock merging into spruce, fir, and paper birch of stunted growth. Below this, there is a rim of precipitous slope which is impossible to log, and then a fine stand of pure, virgin spruce which continues down the steep slopes to elevations below 3,000 feet. Along the southern boundary of the tract is found a younger aged class of spruce resulting from the great landslide of 1880. The virgin spruce runs about 4 logs per tree; 12 logs per thousand. It occurs in practically pure stands which are over-mature and broken in spots.

Along the lower margin of the pure spruce stands is a transition zone of spruce and hardwood mixtures varying in width and composition. Below this the stand is made up of pure hardwoods. In the southern portion the hardwoods are unusually tall and of fair to good quality. Along the brook, well up toward the head, is a patch of second growth hardwoods, evidently the result of a heavy blowdown in the past. The stand came up strong to pin cherry, paper birch, poplar, etc., but the cherry has now largely come down with age, and fir is coming in as an understory with small amounts of spruce. In the older hardwoods beech and yellow birch prevail with maple more restricted to the lower elevations.

In all of this there is no evidence of cutting at any time in the past. The timber is merchantable except for limited areas on the steep slopes toward the ridge tops but the cost of operation will be fairly high because of the rough, steep topography.

Watershed protection deserves some consideration because of the steepness of the slopes and the high precipitation.

Reproduction is well distributed over the entire area. The spruce stands are well stocked with softwood reproduction which is estimated to be 60 per cent fir and this advance growth springs up in dense thickets when openings occur thru windfall. The big slide of 1880 is now covered with a pole stand of red spruce, balsam fir, and paper birch. There is no evidence of fire damage on the tract.

There has been no commercial utilization of timber in this valley or adjacent portions of the same drainage for several decades. The area is not susceptible to cultivation, and is not suited for grazing. There are no mineral values now being developed or prospective. Because of the small size of the watershed it is doubtful if it has any value for hydro-electric development.

The principal value of the area to the public at present is for recreational purposes. The territory is tributary to several important summer resorts and each year is visited by hikers who are confined almost entirely to the trails which encircle the area. Most of the trails around this tract are maintained by the Wonalancet Outdoor Club.

Settlement and Transportation:

There are no buildings or roads on the tract. The nearest settlements are the summer colonies at Fernecroft and Wonalancet, about two miles below the outlet of the "Bowl." The tract is reached by an old logging road from Fernecroft. This logging road leads to foot trails which encircle the area . It would be desirable to construct about two miles of trail in the valley to facilitate protection and study of the area.

Public sentiment:

The public will oppose any commercial use of this area. The upper slopes are visible from the state highway No. 25 between Moultonboro and West Ossipee. Altho very few people actually enter the area the recreationists attach value to the wild country which they view in passing along the ridge trails. There is no doubt but that public sentiment would favor permanent reservation of this tract as a natural area.

Relation of the proposed area to future use of adjacent National Forest lands:

Maintenance of this tract as a natural area would involve no special administrative requirements with the possible exception of some special protective measures. The area constitutes a natural unit which would in no wise interfere with the exploitation of timber or other products from adjacent areas. When the timber on the east side of the valley is ready to cut it can be handled by a logging road up Swift Brook.

C. Edward Behre
Director, Northeastern Forest Experiment Station

Acting R. M. Evans
Regional Forester

Approved Aug 20 1931

James E. Scott
Supervisor, White Mountain National Forest

Approved Aug 15 1931

JOS.
RMM

Washington, D. C.
9/28 1931

By virtue of the authority vested in me by Regulation L-20 of the regulations of the Secretary of Agriculture relating to the occupancy, use, protection, and administration of the National Forests, I do hereby designate as the Bowl Natural Area the lands described in a report dated July 29, 1931, by C. Edward Behre, Director, Northeastern Forest Experiment Station; said lands shall hereafter be administered as a Natural Area subject to the provisions of said regulation and the instructions thereunder.

R. Y. Stuart
Forester.

United States Department of Agriculture
Forest Service
Northeastern Forest Experiment Station
Concord-Mast Road
P.O. Box 640
Durham, NH 03824

Reply to: 1600

Date: Nov. 16, 1987

Russell M. Burns
USDA Forest Service
PO Box 96090 RPE 1205
Washington, D.C. 20090-6090

Dear Russell:

Enclosed are slides of proposed Research Natural Areas Cone Pond and The Bowl in New Hampshire. The drawing attached to The Bowl slide shows the relationship of the existing Bowl area to the proposed addition.

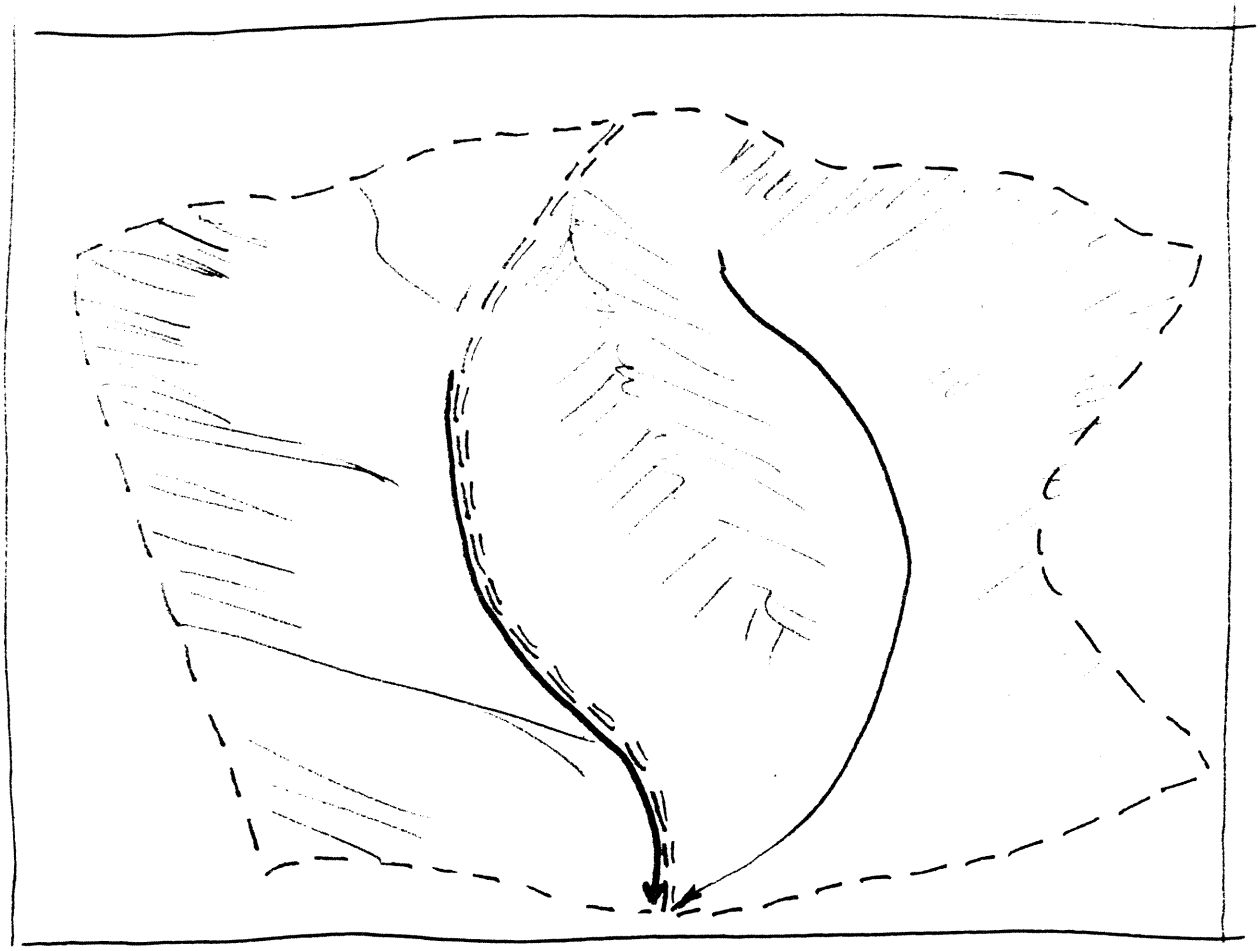
Regards,

ROBERT S. PIERCE
Project Leader

Enclosures

The Bowl Research Natural Area

White Mountain National Forest



— — Existing Bowl Area RNA

— — Proposed Addition RNA

See - Marked Plan

CANDIDATE RNA DESCRIPTION FORM

Candidate RNA: BOWL EXPANSION **Map No.** 2

National Forest: WHITE MOUNTAIN **District:** Saco

Area: 1100 Acres

SAF Cover Types: Red Spruce, Old Growth Northern Hardwoods

Unique Feature: Provides for an expansion of an existing Research Natural Area, protects the integrity of the existing RNA, and provides additional areas on different aspects of old-growth northern hardwoods, and young-mature red spruce.

Description/Comments:

The Bowl Research Natural Area has proven to be an excellent resource for research on forest ecosystems. The justification for expansion include: 1) to maintain undisturbed forest conditions over the entire western and eastern watersheds draining the geologic Bowl, providing a means to monitor nutrient dynamics; and 2) to provide additional areas (on different aspects) of old-growth northern hardwoods and young-mature red spruce. Due to wind damage beginning with the 1938 hurricane, there is little old-growth spruce remaining in the present Bowl RNA.

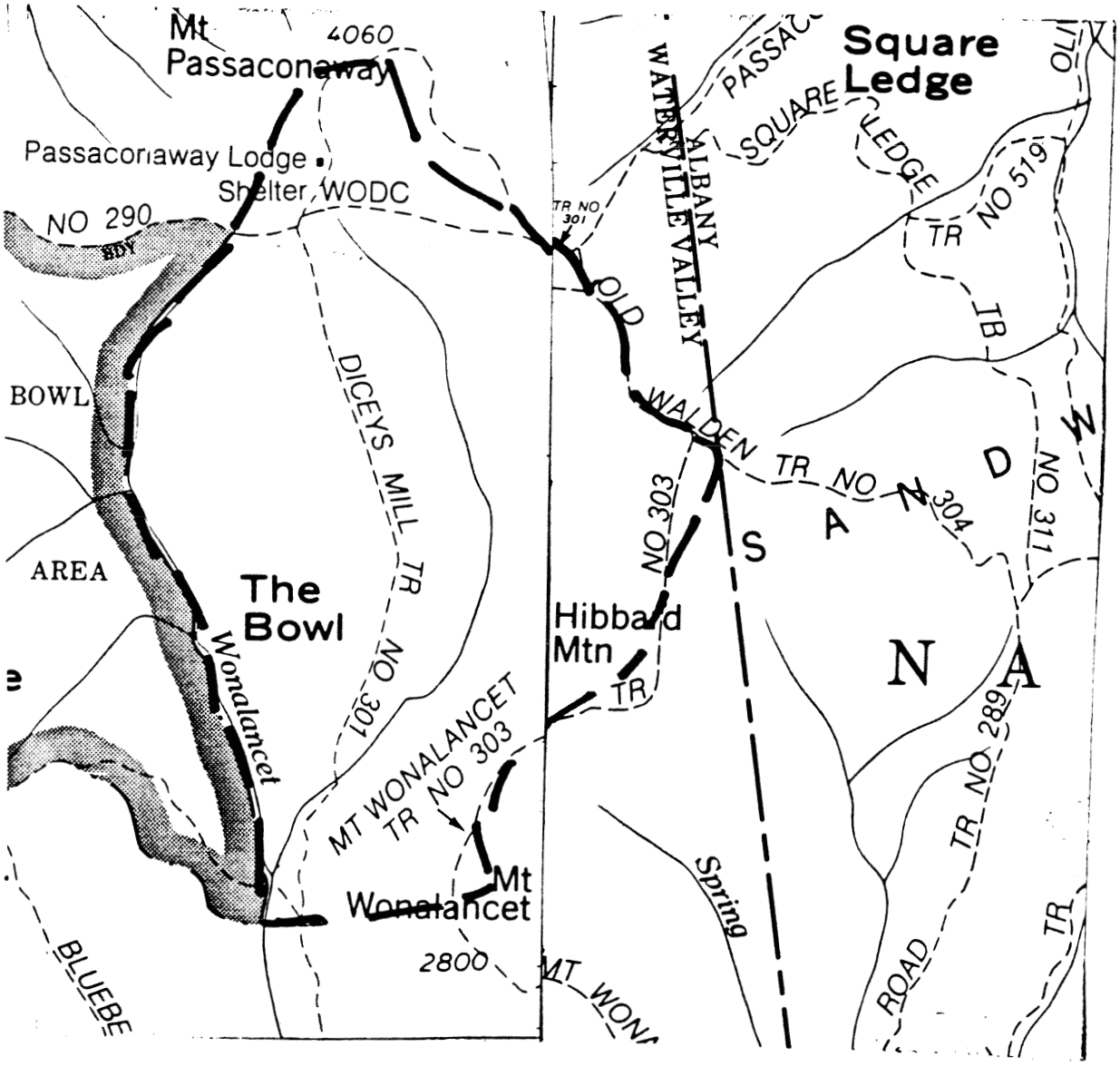
Part of the expansion now proposed was formally proposed and agreed upon several years ago but somehow the effort got sidetracked.

References:

Tubbs, Carl H. 1984. 4060 Memo to Forest Supervisor recommending candidate RNA's. NEFES, Durham, NH.

MAP 2

Bowl Expansion



NATURAL AREA INFORMATION FORM

1. **Name of Natural Area** The Bowl Natural Area

2. **Administering Agency** U. S. Forest Service 9/28/31

3. **Supervising Field Unit** White Mountain National Forest

4. **State and County** New Hampshire, Grafton County

5. **Latitude and Longitude** 43° 56' N.; 71° 24' W
   (This information will not be given to the general public)

6. **Primary type on areas** SAF-32, 343 Acres;
   Red Spruce

7. **Other important types represented on area:**

   7a. Botanic SAF-25, 96 Acres; SAF-18, 16 acres; ~~Sub-alpine~~, 55 acres red spruce SAF 32

   7b. Zoologic

   7c. Geologic G-11; G-16, Syenite

   7d. Aquatic A-12, 3 miles (West Branch, Wonalancet River)

8. **Acreage** 510 Acres

9. **Elevation and Topography** Max. 3,985'; Min. 1,900';
   Steep

10. **For information contact:**
    Director
    NE Forest Experiment Station
    6816 Market Street
    Upper Darby, Pennsylvania
    19082

This form should be filled out in accordance with the instructions on the accompanying information sheet.

INTERNATIONAL BIOLOGICAL PROGRAMME

SECTION CT: CONSERVATION OF TERRESTRIAL BIOLOGICAL COMMUNITIES

CHECK SHEET (Mark VII) FOR SURVEY OF IBP AREAS*

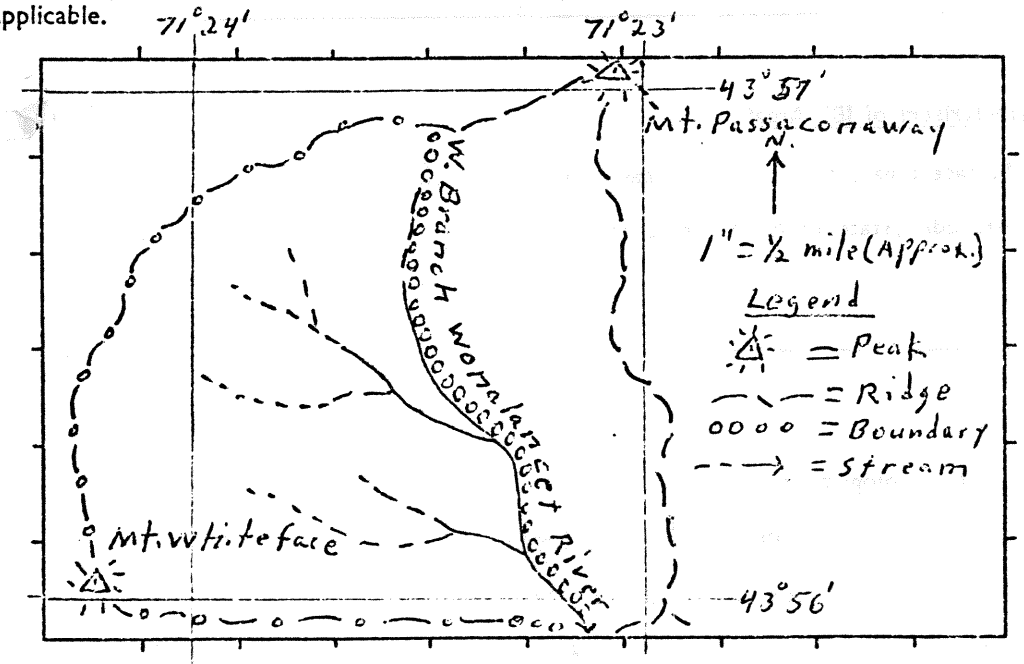
To be completed with reference to the GUIDE TO THE CHECK SHEET

Serial Number | | | | | | |

For Data Centre Use only

1. 1. Name of surveyor Stanley M. Filip
   2. Address of surveyor Northeastern Forest Experiment Station
      P.O. Box 640
      Durham, New Hampshire 03824
   3. Check Sheet completed (a) on site ✓ (b) from records ✓
   4. Date Check Sheet completed September 8, 1969

2. 1. Name of IBP Area The Bowl Natural Area
   2. Name of IBP Subdivision (or serial letter)
   3. Map of IBP Area* showing boundaries attached? Yes ✓ No
   4. Sketch map of IBP Area*. Please mark direction of north, the scale and grid numbers where applicable.



* For "IBP Area", read IBP Area and/or IBP Subdivision.

For Data Centre Use only

3. **Location of IBP Area***

1. Latitude 43 ° 56' N/~~S~~ Longitude 71 ° 24' ~~E~~/W
2. Country United States
   State or Province New Hampshire County Grafton
   (State or Province ..... County .....)

4. **Administration**

National 1. Official category National Forest

2. Address of administration White Mountain National Forest
   719 Main street
   P.O. Box 638
   Laconia, New Hampshire
   03824

International Class

3.

Included in U.N. List	Rejected from U.N. List	Area with formal conservation status	No formal cons. status
(A) ✓	(B)	(C)	(D)

5. **Characteristics of IBP Area***

1. Surface area (state units of measurement) 510 Acres
2. Altitude (state units of measurement) Maximum 3985 feet
   Minimum 1900 feet

6. **Climate**

Nearest climatological station :

1. Name Mt. Washington observatory
2. Climatological station on IBP Area*? Yes ..... No ✓
3. If (2) not, distance from edge of IBP Area* (state units) 23 miles
4. Direction from IBP Area* N.N.E
5. Additional data sheet attached? Yes ..... No ✓

For Data Centre Use only

7. **Vegetation and Soil**

1 **Vegetation**

Community Reference Number	Vegetation Code: Primary Structural Group	Class	Group	Formation	Sub-Formation	Plant communities (give usual name using full Latin names of a species where applicable)	Area (state units) Acres
1	1	A	1	7	a	Picea rubens Sarg.	343
2	1	A	2	1	-	Acer saccharum Marsh.	
3	1	A	2	1	-	Fagus grandifolia Ehrh.	96
4	1	A	2	1	-	Betula alleghaniensis Britton	
5	1	A	2	1	-	Betula Papyrifera Marsh.	16
6	1	A	1	7	a	Picea rubens (Dwarfed phase)	55
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

For Data Centre Use only

7. (cont.) 2

Soil

Community Reference Number	Soil type	Other notes
1	F5	upper portion is rocky, sandy loam, excessively drained, shallow podzol. Lower portion is rocky fine sandy loam well-drained, shallow podzol.
2	F5	Deep, slightly stony, well-drained, fine sandy loam. well-developed podzol profile.
3	F5	Ditto
4	F5	Ditto
5	F5	well-drained, Rocky, sandy loam, shallow podzol.
6	O	Exposed granite, and weathered coarse granite covered with a thin layer of fibrous organic matter.
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

For Data Centre Use only

8. **Similar Communities in Country (or State)** (See item 19)

Community Reference Number	Protected					Protected and Unprotected				
	Abundant	Infrequent	None known	Decreasing	Increasing	Abundant	Infrequent	None known	Decreasing	Increasing
1		✓					✓			
2		✓					✓			
3		✓					✓			
4		✓					✓			
5		✓					✓			
6	✓					✓				
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

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9. **Landscape**

1. General Landscape (give brief description) Area is westerly portion of cirque-like or bowl-shaped topography with very steep (80%) high ridges. The lower slopes taper off to about 25% and are sharply dissected by several small streams whose main drainage funnels out the southerly opening.

2. Relief Type

	Flat	Undulating (0)-200 m.	Hilly 200-1000 m.	Mountainous > 1000 m.	%
Sharply dissected			35	65	100
Gently dissected					
Incised					
Skeletonised					
%			35	65	100%

3. Special landscape features (list)
cliffs above 3500 feet
several visible rock slides

10. **Coastline of IBP Area*** None

1. Protected bays and/or inlets — Many [ ] Few [ ] None [ ]

2. Substratum. % of coast

Rock	Boulder Beach	Shingle Beach	Sand Beach	Shell Beach	Mud	Coral	Ice

3. Physiography. % of coast

Cliffed	Sloping	Flat

4. Special Coastal Features (list)

5. Tide. Maximum range (state units of measurement)

6. Total length of coastline :

Less than 1 km. [ ] 1-10 km. [ ] Above 10 km. [ ]

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11. **Freshwater within IBP Area***

1.

	Permanent	Intermittent
General		
Standing		
Running	✓	✓

2. Standing Water

	Permanent	Intermittent	Unproductive	Productive
Swamps				
Ponds				
Lakes				

3. Running Water

	Permanent	Intermittent
Springs, cold		
Springs, hot		
Streams	✓	✓
Rivers	✓	

4. Special freshwater features Summer temperature of water seldom exceeds 60 degrees F. Always clear

12. **Salt and Brackish Water within IBP Area*** None

Salt Lakes		Lagoon		.....	
Estuaries		Salt pools		.....	

13. **Adjacent Water Bodies (not within IBP Area*)** None

1. Fresh [ ] Lake [ ] River [ ] Stream [ ]

2. Salt and Brackish

Estuary	Salt lake	Salt pool	Lagoon	Ocean		

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14. **Outstanding Floral and Faunal Features**

1. None .. ..

2. Fauna unknown

	Species diversity	Abundance of individuals	Superabundance of individuals	Rare species	Threatened/Relict species	Spp. of biogeographical interest	Exceptional Associations	Breeding or Nesting Populations	Migrating Populations	Wintering Populations		
Mammalia												
Aves												
Reptilia												
Amphibia												
Pisces												
Insecta												

3. Names of main threatened, endemic, relict and rare species

None

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4. **Flora**

	Species diversity	Abundance of particular species	Rare species	Threatened/relict species	Spp. of biogeographical interest	Exceptional associations	Outstanding specimens				
Angiospermae :											
trees	✓										
shrubs											
herbs											
grass											
Gymnospermae							✓				
Pteridophyta											
Bryophyta											
Lichens and Algae											

5. **Names of main threatened, endemic, relict and rare species**

None

15. **Exceptional Interest of IBP Area***

(1) contains virgin red spruce and northern hardwoods
(2) site visited by many hikers
(3) of active interest to foresters, botanists, and conservationists.

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16. **Significant Human Impact**

1. General : None in entire IBP Area* .....

None in part of IBP Area* .....

Impact on entire IBP Area* ..... ✓

2. Particular

	Past impact	Present impact	Trend			
			Increasing	Decreasing	No change	No information
Cultivation						
Drainage						
Other soil disturbance						
Grazing						
Selective flora disturbance						
Logging						
Plantation						
Hunting		✓	✓			
Removal of predators						
Pesticides						
Introductions — plants						
Introductions — animals						
Fire						
Permanent habitation						
Recreation and tourism	✓	✓	✓			
Research		✓	✓			

3, Additional details on each type of impact attached?

Yes ..... No ... ✓ .....

For Data Centre Use only

17. **Conservation Status**

	Protection			Utilisation			Conservation Management			Permitted Research		
	none	partial	total	none	controlled	uncontrolled	none	to alter status	to maintain status	experimental	observational	prohibited
Flora			✓	✓					✓		✓	
Fauna			✓	✓					✓		✓	
Non-living			✓	✓					✓		✓	

18. **References**

1. List major biological/geographical references for the IBP Area.

   Sheet attached? Yes ..... No ✓.....

2. List main maps available for the IBP Area.

   List attached? Yes ..... No ✓.....

3. Aerial photographs for the IBP Area available?

   For whole area ✓..... For part of area ..... None .....

19. **Other Relevant Information**

Hiking trails (having names, directional arrows, and mileages) maintained by white Mountain National Forest and a mountain club along ridges of area.
Item 18 continued. "Infrequent" with reference to virgin-like or climax type within plant community

Signed Stanley M. Felix
(Surveyor)

The Bowl ER! White Mountain National Forest

MEMORANDUM for the Forester:

In accordance with instructions accompanying Regulation L-20 as modified August 7, 1930, and L-Classification, Natural Areas letter of July 2, 1931, we wish to recommend the setting aside as a natural area the tract described in the following report:

Description of area proposed:

The area proposed constitutes the western half of what is known as the "Bowl" which is a deep valley on the east side of Mount Whiteface. The tract lies in the southeast corner of the town of Waterville, in Grafton County, New Hampshire. It comprises roughly the southeast corner of Lot 48, the eastern one-third of Lot 49, the western two-thirds of Lot 52, and the southwest corner of Lot 53. Mount Whiteface on the western boundary of the tract lies in Latitude 43° 56" north, longitude 71° 25" west. The boundary of the proposed tract is as follows:

From the junction of Swift Brook and Wiggins Trail north on Swift Brook to the height of land; thence west and south on Hollins Trail along the height of land to the peak of Mount Whiteface; thence south on Blueberry Ledge Trail along the height of land, and east on Wiggins Trail to the point of beginning.

The total area involved is approximately 510 acres, all of which is within the White Mountain National Forest. It constitutes one of the few readily accessible areas which still contain virgin forests representing all the principal timber types of the region, including spruce and hardwood mixtures.

Acreage of dominant cover types:

Acreage of the principal forest types, as determined by a cruise made by the White Mountain National Forest in 1930, is as follows:

Commercial Forest:	Spruce	311 acres	
	Beech, Birch, and Maple	74 "	385 acres
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			510 acres

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Precipitation is between 45 and 50 inches per year. The normal annual temperature in this vicinity is about 40 degrees with minimums as low as 32 degrees below zero, and maximums around 90 degrees. In mountain valleys such as this frosts are likely to occur in almost any month of the year. The tract lies in the zone where the growing season may be considered about 125 days, from the middle of May to the middle of September.

no weather station

Forest values:

The stand of timber on the area as determined by the cruise of 1930 is as follows:

Spruce, commercial	4,783 M feet, board measure	
Spruce, inaccessible	401 M " " "	
Hemlock	16 M " " "	
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Sugar maple	127 M " " "	
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	Total, all species	6,200 M ft. B.M.

The sub-alpine type occurs in a narrow band along the high ridges. It consists of part of bare rock merging into spruce, fir, and paper birch of stunted growth. Below this, there is a rim of precipitous slope which is impossible to log, and then the fine stand of pure, virgin spruce which continues down the steep slopes to elevations below 3,000 feet. Along the southern boundary of the tract is found a younger stand class of spruce resulting from the great landslide of 1820. The virgin spruce averages about 4 logs per tree; 12 logs per thousand. It occurs in practically pure stands which are over-mature and broken in spots.

Along the lower margin of the pure spruce stands is a tension zone of spruce and hardwood mixtures varying in width and composition. Below this the stand is made up of the hardwoods. In the southern portion the hardwoods are unusually tall and of fair good quality. Along the brook, well up toward the head, is a patch of second growth hardwoods, evidently the result of a heavy blowdown in the past. The stand comes up strong to pin cherry, paper birch, poplar, etc., but the cherry has now largely worn out with age, and fir is coming in as an understory with a small amount of spruce. In the older hardwoods beech and yellow birch prevail with maple more restricted to the lower elevations.

In all of this there is no evidence of cutting at any time in the past. The timber is merchantable except for limited areas on the steep slopes toward the ridge tops but the cost of operation will be fairly high because of the rough, steep topography.

Watershed protection deserves some consideration because of the steepness of the slopes and the high precipitation.

Reproduction is well distributed over the entire area. The spruce stands are well stocked with softwood reproduction which is estimated to be 60 per cent fir and this advance growth springs up in dense thickets when openings occur thru windfall. The big slide of 1820 is now covered with a pole stand of red spruce, balsam fir, and paper birch. There is no evidence of fire damage on the tract.

There has been no commercial utilization of timber in this valley or adjacent portions of the same drainage for several decades. The area is not susceptible to cultivation, and is not suited for grazing. There are no mineral values now being developed or prospective. Because of the small size of the watershed it is doubtful if it has any value for hydro-electric development.

The principal value of the area to the public at present is for recreational purposes. The territory is tributary to several important summer resorts and each year is visited by hikers who are confined almost entirely to the trails which encircle the area. Most of the trails around this tract are maintained by the Monalancet Outdoor Club

Settlement and Transportation:

There are no buildings or roads on the tract. The nearest settlements are the summer colonies at Fernecroft and Monalancet, about two miles below the outlet of the "Bowl." The tract is reached by an old logging road from Fernecroft. This logging road leads to cross trails which encircle the area . It would be desirable to construct about two miles of trail in the valley to facilitate protection and study of the area.

Public sentiment:

The public will oppose any commercial use of this area. The upper slopes are visible from the state highway No. 25 between Moultonboro and East Ossipee. Altho very few people actually enter the area the recreationists attach value to the wild country which they view in passing along the ridge trails. There is no doubt but that public sentiment would favor permanent reservation of this tract as a natural area.

Relation of the proposed area to future use of adjacent National Forest lands:

Maintenance of this tract as a natural area would involve no special administrative requirements with the possible exception of some special protective measures. The area constitutes a natural unit which would in no wise interfere with the exploitation of timber or other products from adjacent areas. When the timber on the east side of the valley is ready to cut it can be handled by a logging road up Swift Brook.

C. Edward Behre
Director, Northeastern Forest Experiment Station

Acting R. M. Evans
Regional Forester

Approved Aug 20 1931

Supervisor, White Mountain National Forest

Approved Aug 15 1931

Washington, D. C.
9/28 1931

By virtue of the authority vested in me by Regulation L-20 of the regulations of the Secretary of Agriculture relating to the occupancy, use, protection, and administration of the National Forests, I do hereby designate as the Bowl Natural Area the lands described in a report dated July 29, 1931, by C. Edward Behre, Director, Northeastern Forest Experiment Station; said lands shall hereafter be administered as a Natural Area subject to the provisions of said regulation and the instructions thereunder.

R. Y. Stuart
Forester.

(From Bill Leak 6/25/83)

UNIVERSITY OF NEW HAMPSHIRE
DURHAM, NEW HAMPSHIRE

AGRICULTURAL EXPERIMENT STATION

22 July 1969

Dr. Robert Buckman
Timber Management Research
United States Forest Service
Washington, D. C.
20250

Dear Dr Buckman:

About 1½ years ago we met at Brookhaven during the AAAS meetings, and conversed about my interest in undertaking a project in the White Mountain National Forest. That project is now under way. I feel it would be desirable to have a written record of my intentions and of your understanding on behalf of the Forest Service that this is the sort of activity for which The Bowl Reservation was established.

My project is sponsored by the Agricultural Experiment Station, University of New Hampshire, under State Forestry Offset funds. It has been approved for funding by the Agricultural Research Service of USDA under Project Number Hatch - 190, titled "Nutrient contributions and mycorrhizal status of forest trees". It has been included in the International Biological Program.

Location of the first 10m x 100m permanent plot is just within the National Forest boundary, west of the Blueberry Ledge trail. Rain gauges, hygro - thermograph, soil thermograph, soil moisture blocks, totalizing light meters, leafdrip collectors, stemflow collectors, and litter collectors have been installed. None of these will disturb the forest. I would like to take a number of small samples of rootmats and of spruce tree stems. Increment borer holes will be corked. In next year's work, I would like to sample stem growth by lopping a few branches, seedlings and saplings, and to sample root growth by trenching. All of this would be on a small scale, and would cause no major disturbance to the forest. Is this acceptable?

Very truly yours,

Thomas Furman

Thomas Furman
Plant Ecologist

TEF/amv

~~CEO (info)~~
~~KEW~~ (11)

4060 (4000)

August 4, 1969

Dr. Thomas Furman
Plant Ecologist
University of New Hampshire
Agricultural Experiment Station
Durham, New Hampshire 03246

Dear Dr. Furman:

Thank you for your letter concerning research on the Bowl Natural Area on the White Mountain National Forest in New Hampshire. The research you describe on the Bowl Natural Area is exactly the kind envisioned when these areas are created.

I suggest one further step if you have not already done so. Be sure that the supervisor of the White Mountain National Forest, Mr. Robert Tyrrel, knows about the activity. He or the appropriate District Ranger may issue a special-use permit or some similar written instrument which will serve to protect both the natural area and your research.

If you wish to ask questions closer to home, please contact Mr. William B. Leak at the Forest Service Laboratory there in Durham.

Sincerely,

Robert E. Buckman

ROBERT E. BUCKMAN
Assistant to the Deputy Chief

CEO
KW

cc: NE Station w/copy of incom. ltr.
Mr. Tyrrel " " "

REBuckman:fmc