

# U.S. Fish & Wildlife Service

## Seney Research and Public Use Natural Areas Report

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### Background

Seney National Wildlife Refuge in Michigan's Upper Peninsula was established in 1935 by Executive Order for the protection and production of migratory birds and other wildlife. Since establishment, the size of the Refuge has not remained static. For instance, in 1995 the Refuge exchanged land to the west of the Creighton Truck Trail for land adjacent to the Manistique River. The Refuge presently encompasses approximately 95,238 acres.

Besides alterations to the overall size of the Refuge, a number of specific parcels of land have been set-aside or removed from active management over the last 68 years: the Seney Wilderness Area (1970), the Strangmoor Bog National Natural Landmark (designation date 1973, Refuge plaque dated 1975), and a number of Research and Public Use Natural Areas (RNAs and PUNAs). However, to date, there exists some confusion regarding these Natural Areas. This is not a new problem; Refuge files indicate that approximately every decade or so this issue arises and Refuge staff revisits the status of these lands. However, no documents can be found that indicate a chronological sequence of events pertaining to the establishment and maintenance of RNAs or PUNAs.

The following, therefore, is a summary report of dated information contained in the Refuge Natural Area files, Refuge Annual Narratives, and Refuge Forest Management Plans (see attached data sheets). Since it would be the utmost in hubris to call this report exhaustive, a considerable attempt has nonetheless been made to highlight major events for each Natural Area. This report aims to provide information pertinent to mapping, planning (i.e., Habitat Management Plan and Comprehensive Conservation Plan), and on-the-ground management of habitats and ecosystems:

1. What are the official names of these Natural Areas?
2. Why were such areas established and when?
3. What are the official sizes and locations of these areas?
4. How should these areas be managed?
5. How might these areas constrain land management and development on the Refuge?

## **A Chronology of Research and Public Use Natural Areas**

**1948:** Although not termed “Natural Areas,” the earliest information that was found regarding set-aside lands was in the May-August, 1948 Annual Narrative in which Refuge Manager C. S. Johnson wrote of field work conducted by Harvey Saunders:

*Several tracts of virgin and natural forests on the refuge were set aside during the period to conform with the desires of the Society of American Foresters [SAF], who have asked that certain areas be preserved permanently in an unmodified condition. Field work by Forestry Aid, Harvey Saunders, revealed the following data on the selected areas:*

### Type 3—Norway Pine

*80 acres...(S1/2 of the SE1/4 of Section 11, T.44N, R.14W)*

#### *Stand Composition:*

*450 cord Norway Pine (3-24" DBH)  
110 cord White Pine (3-30" DBH)  
30 cord Jack Pine (3-13" DBH)  
25 cord Spruce  
10 cord Balsam Fir  
10 cord White Birch  
110 cord Cedar posts*

#### *Features:*

*Accessible by road.  
Spans Driggs River  
Adjacent to T Pool.*

### Type 10—White Pine-Hemlock

*50 acres (NW1/4 of the NE1/4 and fractional part of the SW1/4 of the NE1/4 of Section 4, T.45N-R15W)*

#### *Stand composition:*

*Hemlock (280,000 bd. ft. 16-36" DBH)  
White Pine (12,000 bd. ft. 12-30" DBH)  
Yellow Birch (20,000 bd. ft.)  
Sugar Maple (10,000 bd. ft.)  
Balsam (38 cords)  
Spruce (35 cords)*

#### *Features:*

*Not accessible by road at present.  
Fire lanes to be constructed as soon as possible.*

Type 12—Sugar Maple-Beech-Yellow Birch

320 acres (S1/2 of the SE1/4 of Section 4, T44N-R13W, less Goose Pen Pool and cultivated fields. NW1/4 of NE1/4 and NE1/4 of NW1/4 of Section 9, T44N-R13W)

Stand composition:

	<u>Section 4</u>	<u>Section 9</u>
Hemlock	99,000 bd. ft.	301,000 bd. ft.
Yellow Birch	64,000 bd. ft.	50,000 bd. ft.
Sugar Maple	80,000 bd. ft.	48,000 bd. ft.
Red Maple	22,000 bd. ft.	20,000 bd. ft.
Beech	700 bd. ft.	
Basswood	1,840 bd. ft.	
Elm	8,000 bd. ft.	
Cedar	10 cord	
Spruce	8 cords	
Balsam Fir	4 cords	
Aspen	110 cords	
White Pine		10,000 bd. ft.

Features:

All original stand less cedar and hemlock logged out in 1910.

All parts accessible either by water or road.

The above description of lands and cover types is of special note for the following reasons: 1) it established what cover types would be represented in set-aside lands and 2) it provided legal descriptions (with acreage) for each site. Note, however, that later terminology changed in the case of the White Pine-Hemlock area. Later documents refer to it primarily as a Hemlock area and its legal description does not correspond to later site descriptions. The 1948 legal description places this parcel in what is now the Seney Wilderness Area.

**1949:** The next mention of set-aside lands was found in a 1949 Memorandum from Refuge Manager C. S. Johnson to the Regional Office in which he details the need to set lands aside for “indefinite preservation.” In this note, Johnson briefly describes the three areas proposed in the 1948 Annual Narrative.

**1954.** The SAF published *Forest Cover Types of North America* in which the following cover types noteworthy to the Refuge were formally designated: SAF 15 Red Pine, SAF 21 White Pine, SAF 23 White Pine-Hemlock, and SAF 25 Sugar Maple-Beech-Yellow Birch. The first “published” account of the Seney’s Research Natural Areas (RNAs) also occurred in 1954 when J. F. Shanklin published *Natural Areas* in the *Journal of Forestry* (52:375-383). This is the first account whereby names and acreages have been changed from the 1948 Annual Narrative. The RNAs mentioned included SAF 15 Red Pine (100 acres in “primary type”, 500 acres total Natural Area), SAF 22 White Pine-Hemlock (50 acres primary type, 500 acres total), and SAF 25 Sugar Maple-Beech-Yellow Birch (350 acres primary type, 500 acres total). In this case, it seems “total” refers to the total land area resulting by adding the primary type for each Natural Area: 100 acres SAF 15 Red Pine, 50 acres SAF 22 White Pine-Hemlock, and 350 acres SAF

## 25 Sugar Maple-Beech-Yellow Birch.

**1959:** A Letter from the Director Bureau of Sport Fisheries and Wildlife to the Regional Director indicated a re-evaluation of Seney's Research Natural Areas. Although it was determined that each RNA was not comprised of "virgin timber," the high quality second-growth was appropriate for RNA designation. The major change resulting from this re-evaluation was that the SAF 22 White Pine-Hemlock Research Natural Areas seemed to have been re-categorized as SAF 23 Hemlock. No change to the size of the RNAs was noted.

**1960:** The Society of American Foresters publishes *Society of American Foresters Natural Areas*. (58: pp?). The SAF15 Red Pine Research Natural Area was listed at 100 acres, the SAF 23 Hemlock Research Natural Area was listed at 50 acres, and the SAF 25 Sugar Maple-Beech-Yellow Birch was listed at 350 acres. Together, these RNAs were listed as totaling 500 acres.

**1966:** A memorandum from the Regional Office to the Refuge Manager discusses the RNAs and indicates legal descriptions. From these legal descriptions, the acreages change from values previously mentioned: the SAF 15 Red Pine Research Natural Area (80 acres, T44N-R14W S.11 S1/2 of SE1/4), the SAF 23 Hemlock Research Natural Area (80 acres, T45N-R15W S.2 N1/2 of NE1/4), and the SAF 25 Sugar Maple-Beech-Yellow Birch (480 acres minus Goose Pen pools and cultivated fields, T44N-R13W S.4 S1/2 of SE1/4; T44N-R13W S.9 NW1/4 of NE1/4 and NE1/4 of NW1/4; T44N-R13W S.4 W1/2).

This year also was when the G-32 Strangmoor Bog RNA was first proposed (640 acres, T45N-R15W S.33).

**1967:** In a memorandum from the Regional Office to Refuge Manager Hakala, the RNAs were discussed. The result was another change in acreages of some RNAs: SAF 15 Red Pine Research Natural Area (640 acres), the SAF 23 Hemlock Research Natural Area (50 acres), and the SAF 25 Sugar Maple-Beech-Yellow Birch (500 acres), G-32 Strangmoor Bog (640 acres).

**1968:** A *Directory of Research Natural Areas* was published by the Committee on Research Natural Areas. SAF 15 Red Pine Research Natural Area was listed at 640 acres with 100 acres in "primary type." The SAF 23 Hemlock Research Natural Area was listed at 500 acres with 50 acres in primary types. The SAF 25 Sugar Maple-Beech-Yellow Birch was listed at 500 acres with 350 acres in primary types. The G-32 Strangmoor Bog was listed at 640 acres with all these acres in primary type.

According to *A Directory of Research Natural Areas* (Federal Committee of Research Natural Areas 1968) a Research Natural Area is:

*..an area where natural processes are allowed to predominate and which is preserved for the primary purposes of research and education.....Research natural areas have these objectives:*

1. *To assist in the preservation of example of all significant natural ecosystems for comparison with those influenced by man.*
2. *To provide education and research areas for scientists to study the ecology, successional trends, and other impacts of the natural environment.*
3. *To serve some gene pools and preserves for rare and endangered species of plants and*

*animals.*

**1970:** In a memorandum from the Regional Office to the Refuge Manager, the four RNAs (and the acreages associated with each in 1968 paperwork) were mentioned. The lone exception was for SAF 23 Hemlock RNA for which the total acreage was listed at 50 (not 500).

The Seney Wilderness Area is designated at 25,150 acres.

**1971:** In a memorandum from the Regional Refuge Supervisor to the Refuge Manager the following acreages were associated with each RNA. SAF 15 Red Pine Research Natural Area was listed at 100 acres. The SAF 23 Hemlock Research Natural Area was listed at 50 acres. The SAF 25 Sugar Maple-Beech-Yellow Birch was listed at 350 acres. The G-32 Strangmoor Bog was listed at 460 acres (possibly a typographic error).

**1972:** In *An Addendum to 1968 Research Natural Areas*: SAF 15 Red Pine Research Natural Area was listed at 100 acres. The SAF 23 Hemlock Research Natural Area was listed at 50 acres. The SAF 25 Sugar Maple-Beech-Yellow Birch was listed at 350 acres.

Undated material suggests that two Public Use Natural Areas were being considered. The primary reason for selecting these areas seems to be for visitor use/education during guided tours.

**1973:** Information for the internet shows this year for the designation of the Strangmoor Bog National Natural Landmark.

**1975:** The Refuge's plaque for the Strangmoor Bog National Natural Landmark (approximately 9,600 acres) contains this date. The Landmark is described as T44N-R15W Sections 2, 3, 4, 5; T45N-R15 W Sections 20, 21, 26, 27, 28, 29, 32, 33, 34, 35; Portions of T45N-R15W Sections 25 and 36 lying west of Marsh Creek.

**1976:** This year saw the first mention of proposed Public Use Natural Areas in the Refuge Annual Narrative: a White Pine Public Use Natural Area (northeast side of A-1 Pool) and a Northern Hardwood Public Use Natural Area (northwest of Chicago Farm). A seemingly noteworthy mistake in naming these areas was to give each an SAF cover type code. Whereas the SAF was involved in establishing the Research Natural Areas and assigning a cover type code to each, they were not involved in the establishment of Public Use Areas. Giving these areas SAF cover type codes may confuse the issue of Natural Areas at the Refuge.

An internal Refuge note indicates that these PUNAs were established for (in the case of the White Pine PAN) "interpretation since [it] is only a short walk from the evening tour route" and for "protection" from forest management in the case of the Northern Hardwood PNA.

Note: in an undated note, the legal description of the Northern Hardwood PUNA is described as: T44N-R14W S.13 portions of NE, NW, SW1/4s; borders Chicago Farm on the south and east.

During this year, the first sub-heading entitled *Wilderness and Special Areas* was placed into the Refuge Annual Narratives.

**1977:** Letter from the Director to the Refuge Manager acknowledges establishment of two PUNAs: White Pine PUNA at 30 acres, Northern Hardwood PUNA at 68 acres.

**1978:** The Wilderness Management Plan was completed by Refuge staff and submitted for

review.

**1979:** A report entitled *Research Natural Areas on USFWS Lands* listed four RNAs for the Refuge. Each SAF RNA was listed at 500 acres; the G-32 Strangmoor Bog was listed at 640 acres. For some reason, the SAF 23 Hemlock RNA was listed as SAF 22 White Pine-Hemlock.

**1982:** The Annual Narrative discusses the loss of red pine in SAF 15 Red Pine RNA due to backfires from the 1976 Fire.

**1984:** The Refuge Forest Management Plan lists the following Natural Areas: Red Pine Research Natural Area (SAF 15) at 640 acres, the Hemlock Research Natural Area (SAF 23) at 80 acres, the Sugar Maple-Beech-Yellow Birch Research Natural Area (SAF 25) at 550 acres, the White Pine Public Use Natural Area at 30 acres, the Northern Hardwoods Public Use Natural Area at 68 acres, the Strangmoor Bog Research Natural Area (G-32) at 640 acres. A Tamarack Area (unknown whether RNA or PUNA or location) is proposed at 15 acres.

**1985:** For some reason, the Refuge Annual Narrative states that the Refuge contains three SAF 25 (Hardwood) Sugar Maple-Beech-Yellow Birch Natural Areas. Previous records indicated one RNA of this type, and a Hardwood Public Use Natural Area that was assigned by Refuge Staff the SAF type 25 label.

**1990:** Mike Tansy (Refuge Manager) questions the sizes of all existing and proposed Natural Areas in the Refuge's Forest Management Plan.

## Conclusions

No "smoking gun" was found in this review. Information regarding the designations, sizes, and locations of RNAs and PNAs is so confusing that it is likely "correct" answers do not exist. However, based on the above, the following can be said with some certainty regarding Natural Areas at the Refuge: four RNAs and two PNAs were established. The RNAs were formally given cover type designations by professional organizations (e.g., SAF 15, 23 (22), and 25, G-32). The PNAs were not assigned cover types by professional organizations, thus present signs for the White Pine Public Use Natural Area and the Northern Hardwoods Public Use Natural Area should not include SAF cover type codes.

Based upon the above information and other readings, the following qualified professional assertions are made:

Naming and Acreages:

The following names (and associated acreages) should be approved as "official" and signs reposted to indicate G-32 Strangmoor Bog Research Natural Area (640 acres), SAF 15 Red Pine Research Natural Area (100 acres), SAF 23 Hemlock Research Natural Area (50 acres), SAF 25 Sugar Maple-Beech-Yellow Birch Research Natural Area (350 acres), White Pine Public Use Natural Area (30 acres), Northern Hardwoods Public Use Natural Area (68 acres).

Legal Descriptions:

Because the RNAs and PUNAs acreage values are not conducive to the square 40-acre system used in Michigan, I propose that following legal descriptions and suggest posting the same as "Natural Areas." This will, in many instances, produce management buffer zones.

For the G-32 Strangmoor Bog Research Natural Area the legal description should read: T45N-R15W Section 33.

For the SAF 15 Red Pine Research Natural Area the legal description should read: consisting of 100 acres, T44N- R14W Section 11, S1/2 of the SE1/4 and the S1/2 of the S1/2 of the N1/2 of the SE1/4.

For the SAF 23 Hemlock Research Natural Area the legal description should read: contained within 80 acres, T45N-R15W Section 2 N1/2 of NE1/4.

For the SAF 25 Sugar Maple-Beech-Yellow Birch: contained within 480 acres minus Goose Pen Pools and cultivated fields, T44N-R13W Section 4 S1/2 of SE1/4; T44N-R13W Section 9 NW1/4 of NE1/4 and NE1/4 of NW1/4; T44N-R13W Section 4 W1/2.

For the White Pine Public Use Natural Area: contained within 80 acres, T45N-R13W Section 33 E1/2 of the NW1/4.

For the Northern Hardwoods Public Use Natural Area: Note: bordering Chicago Farm on the south and east and contained within portions of the NE, NW, SW1/4s T44N-R14W Section13.

### **Management and Constraints on Active Land Management and Development**

In a 1966 memorandum from the Acting Director (Bureau of Sport Fisheries and Wildlife) two types of RNA management scenarios are described:

*In one, succession is allowed to advance towards climax without interference.....In the other, appropriate management is applied to hold succession at a desired natural stage that would otherwise advance towards climax.*

However, no documents were found indicating how these two scenarios are to be applied to RNAs at the Refuge. Moreover, based on the fact that two different types of Natural Areas, namely RNAs and PNAs, have been established at the Refuge with Regional Office (and higher) approval, it is conceivable that management and use of such areas should differ. Whereas the RNAs were established for research and education (see discussion for 1968 above), PUNAs were established for a different reason: enjoyment of the public. Thus, it could be argued, that any activity other than research and education should not occur within RNAs.

Regarding management of RNAs, in *Natural Areas of the Society of American Foresters* (Buckman and Quintus, unknown date) the following statements regarding RNA management are made:

*Public use of SAF natural areas, such as picnicking, camping,.....hunting, fishing, and other such uses, may change the character of the area in such a way that its value for research and educational purposes is impaired or limited. These public uses as well as publicity that draws such uses to SAF natural areas are discouraged.*

*....if roads or trails pass along a boundary of, or through an SAF natural area, limited posting is permitted in order to minimize encroachments.*

*Existing roads needed to administer contiguous lands or to facilitate research work in the*

*natural area may be maintained. However, such maintenance, including the removal of dead and down timber, is limited to a strip not exceeding 30 feet on either side of the center line of such roads.*

*Wildfires originating within or adjacent to SAF natural areas are brought under control as quickly as possible. If such a fire burns within a natural area, clean-up, hazard reduction or reforestation is not undertaken unless the utility of the natural area is so seriously impaired that it will no longer be suitable as a natural area.*

*Forest types and related vegetation which represent particular stages in succession may be maintained or created by practices such as prescribed burning.*

### Acknowledgement

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Figure 1. Research Natural Areas and other areas with special designation at Seney NWR.

