

**NWR Staff Time / Activities
To
Participate in Multi-Refuge Management Studies
In
FWS Regions 3 and 5**

The National Wildlife Refuge program in Regions 3 and 5 have entered into an agreement with the U.S. Geological Survey to conduct adaptive management studies on refuges where common management actions occur. This cooperative program is the Refuge Cooperative Research Program (RCRP). Each agency contributes their particular expertise to the effort:

■ **USGS Contributes:**

- Study Design
- Training
- Data Analysis
- Report writing

■ **FWS Contributes:**

- Study Question/Objectives
- Study Sites
- Coordination
- Data Collection
- Management Actions

Funds to conduct these cooperative adaptive management studies are provided by both participating agencies. The USGS provides direct funds to their scientists for participation. The NWRS commits refuge staff time at each of the participating refuge study sites. It is important that each agency be aware of the costs to implement adaptive management. Additionally, individual participating refuges need to be aware of the cost to conduct routine management actions and monitoring efforts to be able to properly plan work activities.

Impoundment Management Study:

Following is a summary of funds expended on the multi-refuge impoundment management study being conducted at 23 refuges throughout Regions 3 and 5 (Figure 1).



Figure 1 NWR Participation in Study

Fund Expenditures:

The USGS fund expenditures are very straightforward, with an amount of ~\$150,000 expended per year.

The NWRS fund expenditures are calculated in terms of refuge staff time. Table 1 and Figure 2 depict refuge staff/volunteer/contractor hours expended at 18 of the 23 participating refuges for the completed 2005 study period.

Table 1. Refuge staff time expended during 2005 to conduct impoundment management study.

REFUGE	TOTAL HOURS	STAFF HOURS	VOLUNTEER HOURS	CONTRACTOR HOURS
MNT	102.5	86.5	16.0	0.0
DES	105.0	105.0	0.0	0.0
JHZ	247.0	225.5	21.5	0.0
HAM	278.0	113.0	0.0	165.0
PMH	370.0	233.0	71.0	66.0
SUP	375.3	144.5	159.0	71.8
WAL	385.3	56.0	11.0	318.3
TWO	401.5	294.5	107.0	0.0
CHN	451.5	427.5	24.0	0.0
AGZ	454.0	352.0	102.0	0.0
ERI	569.8	29.3	124.0	416.5
MNV	575.0	485.0	90.0	0.0
SQC	588.5	496.5	92.0	0.0
MSH	629.5	460.0	169.5	0.0
BKB	719.0	533.5	185.5	0.0
PTX	747.5	470.5	277.0	0.0
PKR	754.0	293.0	108.0	349.0
GRM	1045.3	400.0	645.0	0.0
TOTAL all Refuges	8798.5	5205.3	2202.5	1386.5
AVERAGE per Refuge	488.8	289.2	122.4	77.0

Five refuges did not report hours expended in conducting the study. If the average hours per refuge is used for these five refuges, it is determined that refuges expended a total of 12,522 hours (Includes 1280 hours expended by Regional Biologist Staff, Table 3) to participate in this cooperative effort. A conservative value estimate of \$15.00 per hour for staff time (given contractors, volunteers, temporary biological technicians), yields a dollar value of \$187,830.00 /year expended by the NWRS.

It should be noted however that some of the activities conducted by refuges (Table 3) are routine management actions or monitoring that would have been conducted by staff regardless of participation in the study, while other activities are unique to the study. However, each participating refuge has had to adjust their management and data collection activities to be consistent with the sampling design and protocols outlined for the entire project. Coordinating refuges to focus their efforts using consistent treatments and sampling design will allow for greater efficiency and effective evaluation of management actions at achieving refuge objectives.

Impoundment Study Time Expenditure - 2005 Personnel Summary

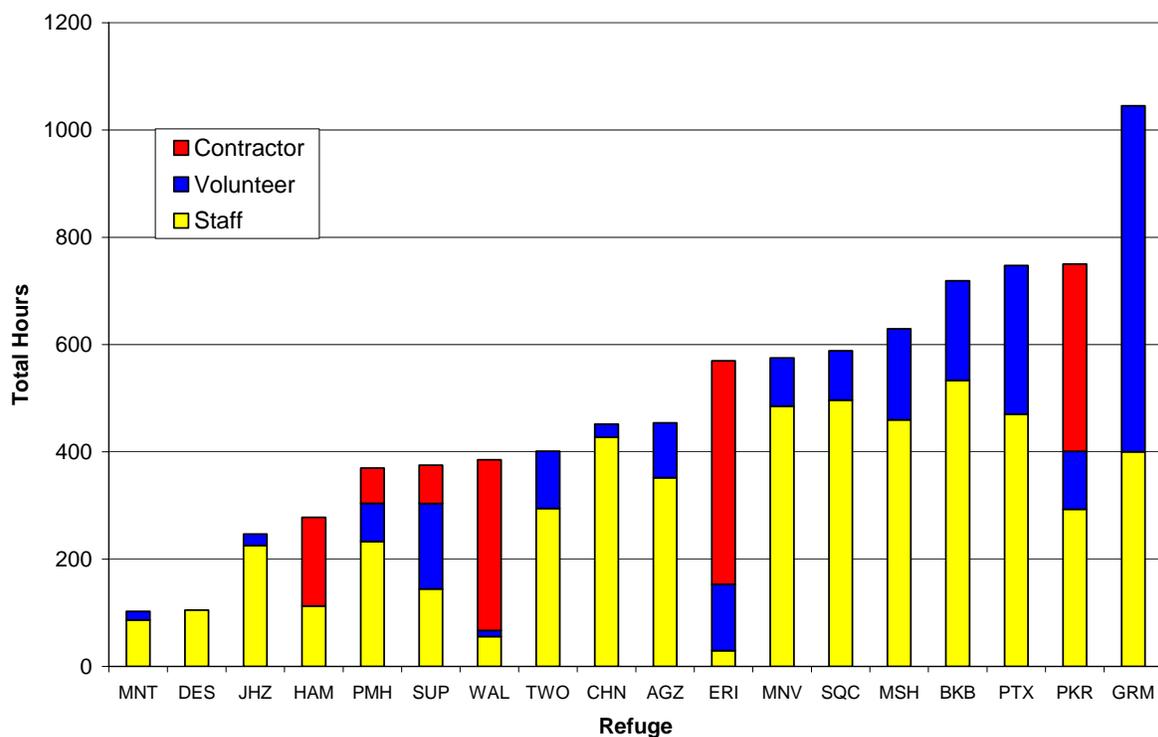


Table 3. Refuge staff time expended in each specific activity to conduct impoundment management study.

TASK	TOTAL HOURS (All Refuges)	AVERAGE per Refuge	TOTAL RRB FWS HOURS	TOTAL FWS HOURS
Invert Processing	2056.0	128.5	16.0	2072.0
Invert/Veg Survey	1625.3	101.6	40.0	1665.3
Waterbird Survey	1490.3	93.1	0.0	1490.3
Water-level Mgmt	768.8	48.0	0.0	768.8
Data Entry	592.8	37.0	0.0	592.8
Detectability Survey	460.8	28.8	32.0	492.8
Bathymetry Survey	532.3	33.3	240.0	772.3
Spp Comp Survey	450.5	28.2	0.0	450.5
Training	347.5	21.7	192.0	539.5
Habitat Mgmt	141.5	8.8	0.0	141.5
Coord/Admin	120.0	7.5	400.0	520.0
Invasive Spp Control	126.0	7.9	0.0	126.0
Field/Equip Prep	87.0	5.4	120.0	207.0
GIS (RRB only)	0.0	0.0	240.0	240.0
GRAND TOTAL	8798.5		1280.0	10078.5

¹ Note, Regional Refuge Biologist (RRB) staff time not calculated into refuge averages for each activity.

Rx Fire / Cattail Management:

Wetland processes: a 10-20 year study to improve wetland management capabilities of the National Wildlife Refuge System through integration of research, continuing education, and adaptive management.

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and

U.S. Fish and Wildlife Service, Biological Monitoring Team, Agassiz NWR, Sherburne NWR, Leopold WMD, Horicon NWR, Iroquois NWR, and NYSDEC Tonawanda WMA.

Project Staff Time and Costs for FY06

The USGS fund expenditures was approximately \$125,000 for FY06, which was similar to expenditures during FY04 and FY05.

The NWRS expenditures are calculated in terms of refuge staff time and costs incurred by the individual refuge above normal refuge operations, for participating in the Fire Wetland Study (Tables 1 and 2).

Table 1. Staff hours and expenditures on five National Wildlife Refuges and one state area for participating in the multi-refuge Fire Wetland Study during FY06; FWS Staff hours are combined.

REFUGE	TOTAL	FWS STAFF*	Contractor	Volunteers	Refuge Costs***
Agassiz	663	663	0	0	\$3,300
Horicon	551.5	542.5	0	9	\$2,725
Iroquois	1030.5	827.5	203	0	\$3,057
Leopold	349.5	340.5	0	9	0
Sherburne	330.5	330.5	0	0	0
Tonawanda WMA (NYSDEC)	132	132	0	0	0
Subtotal	3057	2836	203	18	\$9,082
AVERAGE per Refuge	509.5	472.67			

*See below Table 2 for break-down of staff hour types.

***See Table 2 for explanations.

Table 2. Staff hours and expenditures on five National Wildlife Refuges and one state area for participating in the multi-refuge Fire Wetland Study during FY06.

REFUGE	TOTAL Hours	FWS STAFF HOURS*					Contractor Hours**	Volunteers	Refuge Costs***	
		Refuge/State Staff Hours	Fire Staff Hours	RRB/BMT (Lor)	BMT (Ranallo)	BMT (BioTech Handke)				
Agassiz	663	57	111	141	171	183	0	0	\$3,300	
Horicon	551.5	322	52	66	81	21.5	0	9	\$2,725	
Iroquois	1030.5	167.5	286	143	231	0	203	0	\$3,057	
Leopold	349.5	85	87	66	81	21.5	0	9	0	
Sherburne	330.5	85	87	56	80	22.5	0	0	0	
Tonawanda WMA (NYSDEC)	132	24	28	40	40	0	0	0	0	
Subtotal	3057	740.5	651	512	684	248.5	203	18	\$9,082	
TOTAL	3057	2836								
AVERAGE per Refuge	509.5	123.42	108.5	85.33	114.0	41.42				

* FWS Staff Hours include REFUGE/STATE staff hours (biologist, bio.tech, maintenance, and volunteer staff) for site inspections, evaluations of wetland conditions to meet study criteria, coordination with research team; FIRE STAFF hours comprise mainly of field fire staff to prepare Prescribed Fire Plans, site evaluations and preparations, and a total of 12 hours were included for FMOs and Regional Fire Staff time for meetings, conference calls, and discussions about prescribed burning the study units; Soch’s time for coordination in all aspects of the project; Kari Ranallo’s time as the main contact for field work and protocol development and testing; Biological Technician time, which was paid by Region 3 Refuge Program funds (Nita) to conduct field work and site inspection.

**Contractor’s time was paid by R5 Refuge Program funds (Tony) for field work at Iroquois.

***Refuge costs are expenditures incurred by the refuge to prepare site to meet study criteria, such as fuel for pumping water; amount is above what the refuge incurred if they were not participating in the study.

Total Expenditures

It is conservatively estimated that, with a value of \$15.00 per hour for staff time (2,373 staff hours, which does not include Kari Ranallo’s salary since it is paid by USGS re-imbursable money), \$35,595/year was expended by the NWRS, in addition to the \$9,082 incurred by refuges, for a grand total of \$44,677 in FY06.