



**M E M O R A N D U M**

**TO:** Terry Martino  
**FROM:** Daniel M. Spada  
**DATE:** December 21, 2012  
**RE:** RASS Division Annual Summary for 2012

**2012 General Summary**

As the Resource Analysis and Scientific Services (RASS) Division of the Adirondack Park Agency we are tasked to provide sound independent scientific advice to all other Agency divisions. Often times we will act as the interface between other Agency Divisions offering technical determinations and providing insight on environmental issues.

RASS Staff is always engaged with addressing the linkages between science and policy in how we interpret sometimes highly technical and complex material. We endeavor to reduce highly technical subjects to understandable language. With that in mind, we always strive to explain in our personal contacts, written memos and letters, why we require certain actions and what the effects of those actions are from an environmental and fiscal point of view.

For example, it is important that landowners know why we require Deep Hole Test Pits to be dug and interpreted; the suitability of soils for wastewater treatment is of primary concern for environmental and human health. Furthermore, the better suited the soils are to receive wastewater the less expensive it is for the landowner to have a system designed and installed. It is this type of information that is beneficial to all parties involved in the undertaking of a project.

It is also our commitment to provide wetland determinations and field delineations to landowners in the Adirondack Park. This is an integral step in the planning and design phases of projects and helps to avoid and/or minimize wetland impacts. It is this reason that RASS staff is often the first face of the Agency that a project sponsor sees and reveals their development plans to. It is

common for RASS to spend long hours in the field advising design that will avoid adverse environmental impacts.

It is RASS's charge to educate the project sponsor regarding the resources of concern and the reasons for their protection with a high level of professionalism, civility and respect. We do this in light of the RASS Division's guiding principle: "Protect natural resources by applying relevant laws, regulations, standards and policies using good science and sound engineering judgment, while at the same time, being respectful and consistent with all those we come in contact with."

Through any given year RASS staff work on projects, enforcement cases, variances, and policies, and provide technical advice regarding a wide variety of topics including making height, navigability and mean high water mark determinations, identifying, delineating and evaluating wetlands, assessing wildlife impacts, and assessing forest management activities. All Agency transactions that involve wetlands, soils, wastewater treatment, surface waters or forests pass through RASS for resource analysis and recommendations. RASS professionals are called upon to provide expert testimony under oath regarding their areas of specialization.

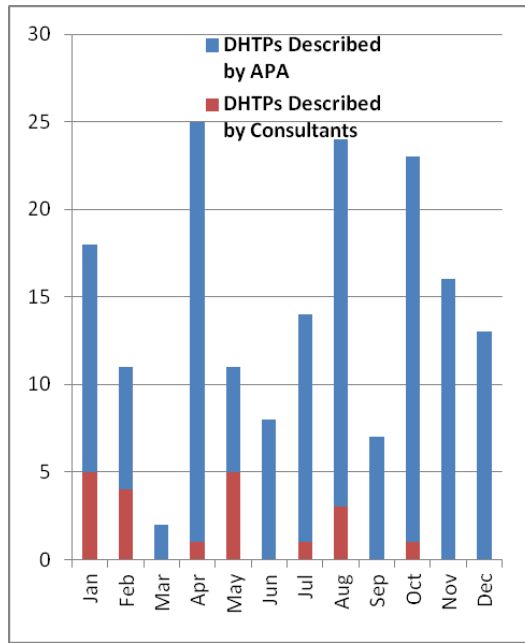
### **Soils**

A qualified soil scientist on the Agency staff provides soil analysis for the development of on-site wastewater treatment systems (OSWTS). This process is vital so Agency engineering staff can efficiently issue approvals for submitted OSWTS designs.

In 2012 a total of 76 projects involving 172 deep-hole test pits (DHTPs) were reviewed by Agency staff (Table 1). Of the 172 DHTPs 152 were described by Agency staff and 20 were described by outside consultants (Figure 1). All data submitted by consultants is checked by Agency staff to ensure profile accuracy, separation requirements, and appropriate setback distances. In 2012, 23% of the test pits were approved for conventional standard absorption on-site wastewater treatment systems (OSWTSSs), 38% were approved for conventional shallow absorption OSWTSSs and 38% did not meet Agency guidelines (Figure 2). Of the approved shallow systems 92% were due to shallow seasonal high groundwater table (SHGWT) and 8% were due to shallow bedrock (Figure 3).

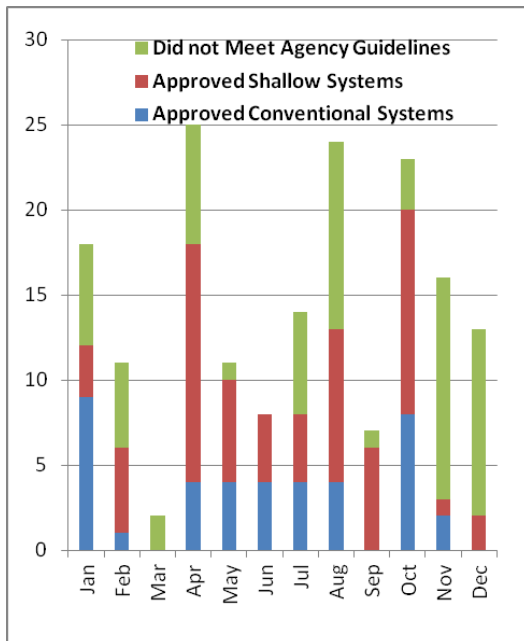
<b>Deep Hole Test Pit Statistics</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>YTD</b>
Projects Involving DHTPs	7	5	1	11	11	5	7	7	3	9	5	5	76
DHTPs Described by APA	13	7	2	24	6	8	13	21	7	22	16	13	152
DHTPs Described by Consultants	5	4	0	1	5	0	1	3	0	1	0	0	20
<b>Total DHTPs</b>	<b>18</b>	<b>11</b>	<b>2</b>	<b>25</b>	<b>11</b>	<b>8</b>	<b>14</b>	<b>24</b>	<b>7</b>	<b>23</b>	<b>16</b>	<b>13</b>	<b>172</b>
Approved Conventional Systems	9	1	0	4	4	4	4	4	0	8	2	0	40
Approved Shallow Systems	3	5	0	14	6	4	4	9	6	12	1	2	66
Did not Meet Agency Guidelines	6	5	2	7	1	0	6	11	1	3	13	11	66
Approved Conventional Systems %	50%	9%	0%	16%	36%	50%	29%	17%	0%	35%	13%	0%	23%
Approved Shallow Systems %	17%	45%	0%	56%	55%	50%	29%	38%	86%	52%	6%	15%	38%
Did not Meet Agency Guidelines %	33%	45%	100%	28%	9%	0%	43%	46%	14%	13%	81%	85%	38%
<b> </b>													
Approved Shallow Systems	3	5	0	14	6	4	4	9	6	12	1	2	66
Shallow Systems due to SHGWT	3	5	0	14	6	4	3	9	3	11	1	2	61
Shallow Systems due to Bedrock	0	0	0	0	0	0	1	0	3	1	0	0	5
Shallow Systems due to SHGWT %	100%	100%	0%	100%	100%	100%	75%	100%	50%	92%	100%	100%	92%
Shallow Systems due to Bedrock %	0%	0%	0%	0%	0%	0%	25%	0%	50%	8%	0%	0%	8%

*Table 1. Deep-hole test pit statistics for 2012*

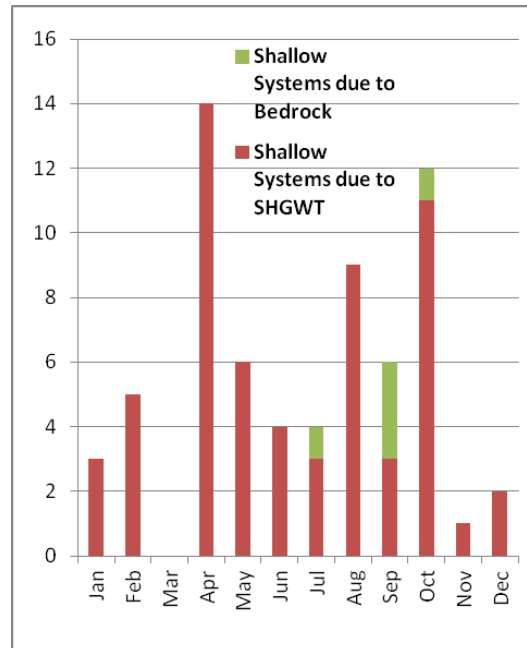


**Figure 1. Deep-hole test pits described by the APA and consultants in 2012**

**Figure 2. Number of approved shallow and conventional systems and number of systems that did not meet Agency guidelines**



**Figure 3. The number of approved shallow systems due to SHGWT and to bedrock. This graph is only accounting for shallow systems.**



## **Engineering**

Evaluating existing and proposed development within the Park requires professional engineering services and technical analysis that is based upon sound science and engineering judgment and is consistent with applicable laws, regulations, standards, policies and guidance documents. RASS engineering staff routinely conduct site visits, review professionally prepared plans and provide recommendations and alternative designs where appropriate. Subject areas, include, but are not limited to, on-site wastewater treatment, site design and access, stormwater management, erosion and sediment control, dams, bridges, roads, traffic, noise and adequacy of municipal services. The technical analysis provided by RASS engineering staff includes professional opinions that are protective of life, health and the natural resources of the Park.

In 2012 RASS engineering staff conducted 143 site visits and provided written technical recommendations (by Division) as follows:

- Regulatory Programs (Permit Applications) - 158
- Regulatory Programs (Pre-Applications) - 15
- Legal (Jurisdictional Office) - 43
- Legal (Enforcement) - 21
- Planning (Local Government) - 2
- Planning (State Land) - 3

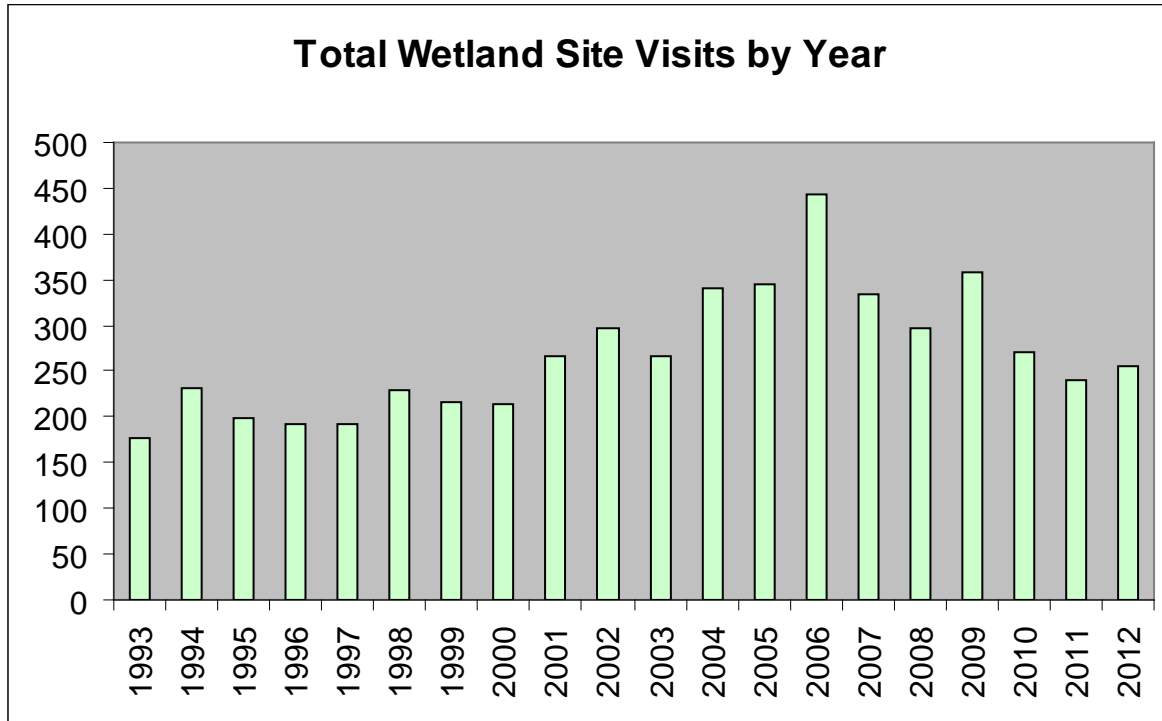
## **Wetlands**

Analysis of the wetland mapping data that we have collected over the years as a result of EPA Wetland Protection Program Development grants indicates that approximately 15% or 900,000 acres of the Park are wetlands. The Adirondack Park is a wet place. Wetland involvement is a common jurisdictional trigger. The NYS Freshwater Wetlands Act and the APA Act have stringent requirements for regulated activities involving wetlands. The Agency's wetlands protection program including mapping, delineation, evaluation, mitigation and impact analysis has been and is considered proactive, responsive to public needs and technologically advanced. RASS wetlands staff provide a level of service to the public that has no parallel.

**Note: Total number of site visits may not match up between tables due to sites in multiple land use areas, towns and counties and site visits in multiple land use areas.**

During 2012 a total of 255 wetland visits were made throughout the Park (Figure 4). Each visit involved a wetland determination and/or delineation. Some of the wetland delineations, due to wetland size, took several days to complete. The average processing time of all 255 visits was 9 days (Table 2). 2012 marks the second fastest average processing time since 2000 (Table 3).

Figure 4. Wetland visits by year (1999 to present)



Time Period	Number of requests received during month	Number completed	Interval for processing. (Date received to date scheduled for those received in that month)	Number pending
January	2	2	N/A	0
February	6	3	N/A	3
March	25	8	N/A	20
April	33	36	15	17
May	38	48	8	7
June	26	23	14	10
July	26	27	12	9
August	27	31	9	5
September	28	27	10	6
October	20	22	7	4
November	17	20	5	1
December	5	8	2	0
Cumulative for 2012	254	255	Avg = 9	0

Table 2. Year 2012 wetland site visits.

Year	Total Site Visits	Average Processing Time (Days)
1993	176	N/A
1994	232	N/A
1995	198	N/A
1996	193	N/A
1997	192	N/A
1998	229	N/A
1999	216	N/A
2000	213	12
2001	267	10
2002	297	7
2003	266	11
2004	341	13
2005	346	29
2006	444	28
2007	333	14
2008	297	13
2009	357	14
2010	271	13
2011	240	11
2012	255	9

**Table 3. Average processing time for wetland site visits. Data not available from 1993 to 1999.**

In 2012 the distribution of wetland site visits in counties continued to follow the trend noted since 2005 (Table 4.). Essex and Warren counties see the greatest number of wetland site visits with Franklin and Clinton the next largest number. These are the most populous and economically active counties within the Park.

County	2005	2006	2007	2008	2009	2010	2011	2012
Clinton	22	27	21	22	30	18	22	25
Essex	68	115	64	68	87	66	56	66
Franklin	56	48	43	26	39	37	32	32
Fulton	16	36	17	18	27	14	16	22
Hamilton	34	39	37	34	45	21	19	28
Herkimer	19	22	22	25	17	14	11	16
Lewis	9	3	3	2	4	2	5	0
Oneida	4	10	6	4	5	0	2	2
Saratoga	11	17	10	4	9	3	4	4
St. Lawrence	19	12	12	12	10	12	16	18
Warren	79	103	79	73	70	71	50	33
Washington	9	12	19	9	14	12	7	7
multiple								2
	346	444	333	297	357	270	240	255

**Table 4. Wetland site visits by County from 2005 through 2011.**

Table 5 and Figure 5 document the number of wetland site visits conducted in each Land Use Area for the years 2005 through 2012 and for the year 2012. This shows a relatively even distribution across land use areas with Resource Management typically having the lowest annual numbers.

LUA	2005	2006	2007	2008	2009	2010	2011	2012
LI	61	97	75	64	60	48	50	44
MI	90	113	79	59	87	51	47	54
RM	30	38	37	42	39	38	29	30
HA	53	71	59	48	52	36	41	39
RU	98	116	73	72	102	73	53	72
IT					1	1		
IN	2	3	4		1	2	1	1
SA		1				1		
WF	6	3	3	6	4	11	12	11
WD	1			1				1
Pending						1		

**Table 5. Wetland site visits by Land Use Area from 2005 through 2012.**

RASS receives requests for wetland site visits from several sources. The numeric and graphic displays in Table 6 and Figures 6 and 7 indicate that the distribution across request sources is relatively even and has remained consistent.

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Regulatory Programs	20	40	58	57	43	52	75	56	49	77
JIF Office	81	65	58	95	69	55	50	49	39	41
Enforcement	41	54	36	84	77	64	89	59	40	48
Requests from the Public	124	184	195	207	143	126	143	106	112	89

**Table 6. Wetland site visits by request source from 2003 through 2012.**



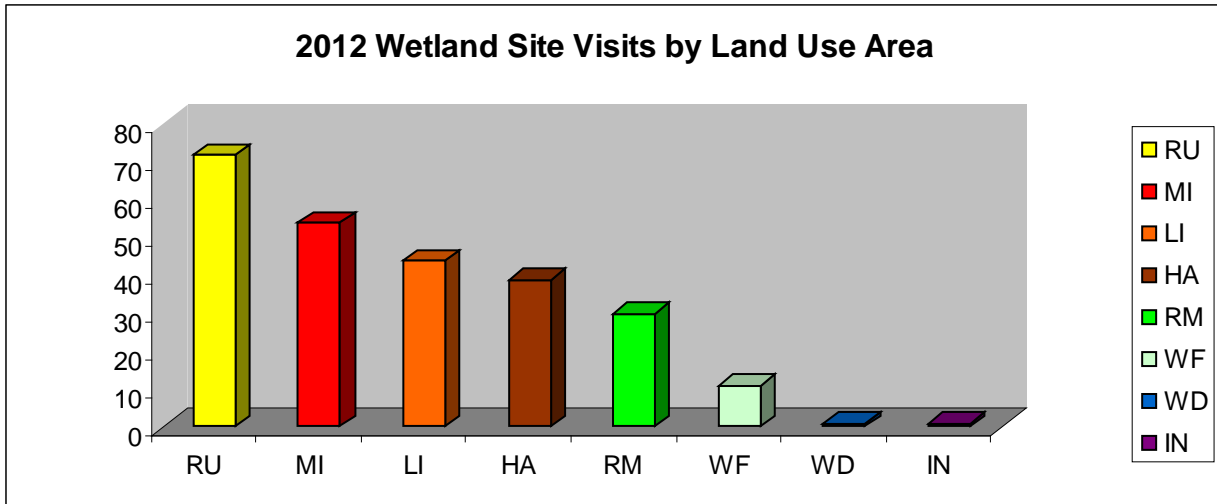


Figure 5. Wetland site visits by Land Use Area for 2012.

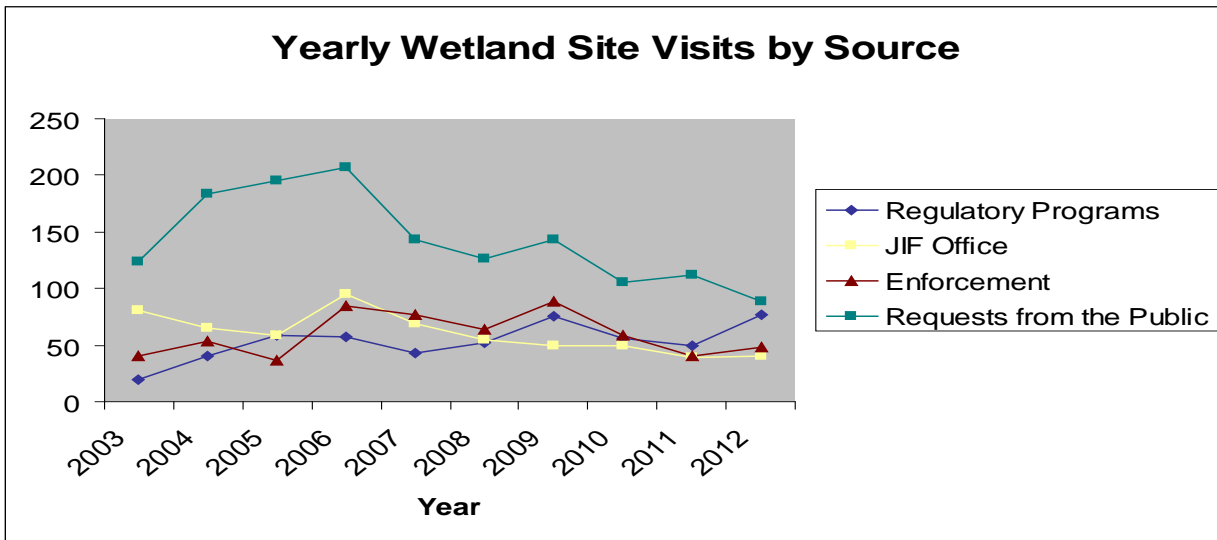


Figure 6. Wetland site visits by request source from 2003 through 2012.

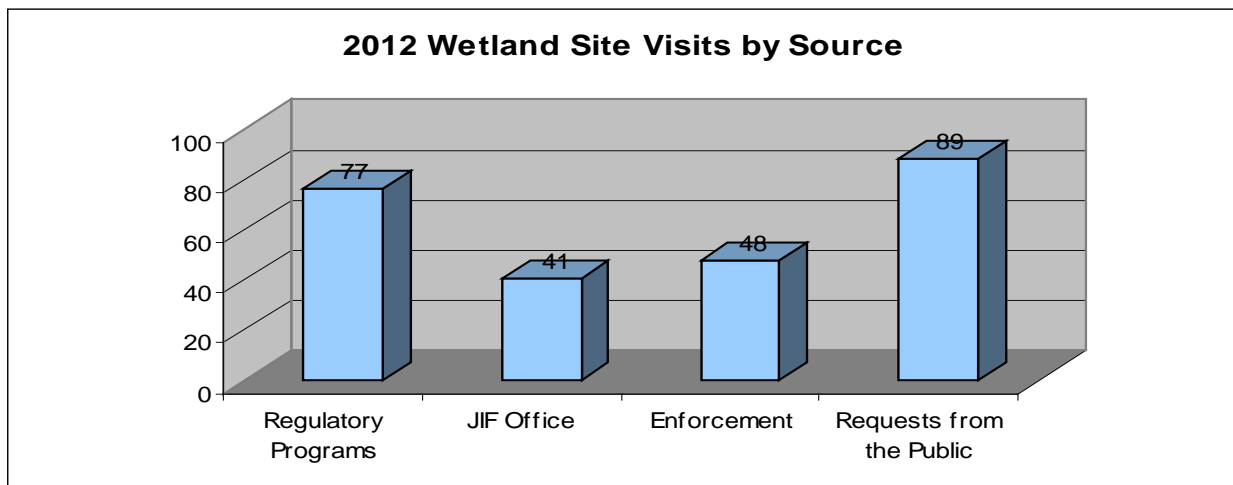


Figure 7. Wetland site visits by request source for 2012.

## **Surface Waters**

The condition of surface waters (lakes, ponds, rivers and streams) affect residents of the Park in many ways including quality of recreational activities and human health. Often surface water quality is indicative of other less visible problems within the watershed. Nuisance aquatic plants, invasive species, algal blooms, basin in-filling, and delta growth are all symptoms of larger problems within the watershed. RASS staff takes a holistic approach to these water quality issues by analyzing the causes of the symptoms and attempting to educate the stakeholders on preventive and restoration measures. Requiring adequate shoreline setbacks and intact vegetational buffer zones, and requiring design and implementation of appropriate stormwater management plans are essential parts of this holistic approach.

## **Forests**

The privately owned forests of the Adirondacks are perhaps the most visible natural resource. There are factors such as invasive pests and pathogens, climate disruption and acidic deposition that pose the threat of severe impairment. Some of these are global or statewide issues that we here in the Park have only a peripheral ability to counter. However, the Agency does have the ability to encourage good forest management practices that will result in a resilient, healthy forest more capable of resisting the perturbation factors noted above. RASS staff has continued to develop a general permit for silvicultural prescriptions that trigger "clearcut" jurisdiction in an attempt to provide an incentive to undertake and complete harvesting treatments that reduce "high grading", dominance by undesirable species, reductions in biodiversity and unhealthy forest conditions. We feel this is a major step in advancing the implementation of a scientific silvicultural approach to forest management in the Park and part of sustainable forest management.

## **EPA Grants**

Work was commenced on the Environmental Protection Agency (EPA) Wetland Protection Program Development (WPPD) grant entitled, "Detecting Climate Change in Wetlands in the Adirondack Park". The grant total is \$308,816 with the Federal share being \$227,005. This is the 14<sup>th</sup> EPA WPPD grant award that the RASS Division has garnered dating back to 1993 and totaling over \$3 million dollars.

A Project Coordinator was hired under contract and has been working diligently to organize and focus the work of the grant.

## Committee and Organizational Affiliations

List of committees or organizations in which RASS Staff participate:

Committee Name	Staff Participant	# Meetings in 2012
GIS User's Group	Rooks	Several
NY Interagency Review Team (ACOE mitigation)	Rooks	2
Lewis County Envirothon test writing committee	O'Dell	1
GIS User's Group	O'Dell	Several
Lake Champlain Basin Program Technical Advisory Committee	Snizek	meets monthly (term expires 2014)
Lake Champlain Basin Program Aquatic Nuisance Species	Snizek	meets quarterly
Adirondack Aquatic Nuisance Species Committee	Snizek	meets quarterly
Champlain Watershed Improvement Coalition of New York (CWICNY)	Snizek	meets monthly (non-voting member)
Northeast Aquatic Plant Management Society (NEAPMS)	Snizek	annual meeting only
New York State Federation of Lake Association (NYSFOLA)	Snizek	annual meeting only
Adirondack Park Invasive Plant Program (APIPP)	Spada	2
Lake Champlain Basin Program Rapid Response Team	Spada	8
Adirondack Research Consortium (President)	Spada	4
Invasive Species Advisory Network for the combined NY Invasive Species Clearinghouse (NYIS.INFO) and Cornell Cooperative Extension Statewide Invasive Species Education Program (CCE ISP).	Spada	Undetermined number of email information requests. 2 meetings per year by phone.
NYS Invasive Species Council	Spada	3
Boquet River Association (BRASS) Advisory Committee	Spada	2
Adirondack Park Institute (Board Member)	Spada	2

**Summary of RASS Activities for 2012**

<b>Activity</b>	<b>Number of Interactions (Site Visits)</b>	<b>Year To Date (Site Visits)</b>
Projects	9 (6)	213 (80)
Pre-Application	2 (2)	74 (54)
Permit Compliance	0 (0)	5 (3)
Enforcement	1 (0)	62 (44)
Jurisdiction	1 (1)	64 (19)
Legal	0	4
Planning	0	3
Map Amendment	0	2
Wetlands	1 (1)	354 (203)
Airphoto Interpretation	15	254
Soils	5 (13)	60 (82)
Meetings/Events	5	229
Literature Reviewed	0	44
<b>Total</b>	<b>39 (23)</b>	<b>1317(492*)</b>

\*Does not add up due to overlap among activities