



**Department
of Health**



Health Research Science Board

Biennial Report

January 1, 2013 to December 31, 2014

Each year in New York, nearly 15,000 women are diagnosed with breast cancer and over 2,700 women die from the disease. It is estimated that one in eight women will develop breast cancer sometime during her life. While men are also diagnosed with breast cancer, the incidence is very rare. About 125 men are diagnosed with breast cancer each year in New York State.

The Health Research Science Board (Board, HRSB) of the New York State Department of Health (DOH) was established pursuant to Chapter 279 of the Laws of 1996 (amended by Chapter 219 of the Laws of 1997, Chapter 32 of the Laws of 2008 and Chapter 60 of 2014). The legislation is codified in Title 1-B of Article 24 (§ 2410-2413) of the New York State Public Health Law (PHL).

Through the DOH, the Board solicits, receives and reviews grant applications from New York State organizations for research and education programs focusing on the causes, prevention, screening, treatment and cure of breast cancer and may include, but are not limited to mapping of breast cancer, and basic, behavioral, clinical, demographic, environmental, epidemiologic and psychosocial research. Recommendations for awards are made to the Commissioner of Health. Funded projects are supported by the Breast Cancer Research and Education Fund (Fund), which is financed primarily through voluntary contributions from a check-off mechanism on the New York State Income Tax form authorized in § 97-yy of the State Finance Law. New York State began matching contributions to the Fund in 2002 (pursuant to Chapter 550 of the Laws of 2000). The Fund is also financed by direct gifts and one-half of the proceeds from sales of Drive for the Cure specialty license plates (Tax Law § 209-D and 627 and Vehicle and Traffic Law § 404-q). To date, approximately \$11.4 million in funding has been encumbered to support 107 research and education projects. During this reporting period, more than \$855,000 were contributed and matched by State funds.

At its meeting of March 14, 2014, the Board expressed concerns regarding the timing of Requests for Applications (RFAs) for distribution of funding and peer review services to evaluate proposals. This resulted in the May 5, 2014 meeting of the *Committee on Program Needs and Effectiveness* that recommended a strategic course of issuance for the three previously-approved RFAs. The Board projects that DOH will be able to issue a scientific research and an education research RFA annually. Issuance of RFAs at the same time each year is planned for consistent expenditures of the Breast Cancer Research and Education Fund.

The DOH uses a contractor to manage the scientific and technical merit peer-review process for evaluating applications for funding. During the reporting period, the existing peer review contract ended and a new competition was held to secure these services. A new contractor was selected; the contract start date is January 1, 2015. The independent peer-review process is intended to obtain the highest quality review of applications by expert scientists, clinicians, educators and survivors/advocates.

The following publications resulted from funded research projects during the reporting period:

Institution	Project Title	Publication (Funded Investigator in Bold)
Albert Einstein College of Medicine of Yeshiva University	Consequences of GATA3 mutation for normal mammary gland development and breast cancer	Chandiramani, N, Kenny PA . "Comparative analysis of GATA3 mutation profiles between Asian and Western breast cancer patients: Is there really a difference?" <i>Cancer</i> . 2014; 120(17):2778-2779.
Memorial Sloan-Kettering Cancer Center	Investigating and Targeting Interactions Between Cancer and the Microenviron	Sevenich, L., Bowman, R, Mason, SD, Quail, DF, Rapaport, F, Elie BT, Brogi E, Brastianos P, Hahn WC, Holsinger L, Massague J, Leslie CS, Joyce JA . "Analysis of tumour and stroma-supplied proteolytic networks reveals a brain metastasis-promoting role for cathepsin S." <i>Nature Cell Biology</i> . 2014; 16:876-88.
Roswell Park Cancer Institute	Targeting Integrin Signaling in Breast Cancer Progression	Bianchi-Smiraglia A, Paesante S, Bakin AV . "Integrin $\beta 5$ contributes to the tumorigenic potential of breast cancer cells through the Src-FAK and MEK-ERK signaling pathways." <i>Oncogene</i> . 2013; 32(25):3049-58. Bianchi-Smiraglia A, Kunnev D, Limoge M, Lee A, Beckerle MC, Bakin AV . "Integrin- $\beta 5$ and zyxin mediate formation of ventral stress fibers in response to transforming growth factor β ." <i>Cell Cycle</i> . 2013; 12(21):3377-89.

The Board is responsible for evaluating requests for and granting access to confidential pesticide-related data collected and maintained in the New York State Pesticide Sales and Use Database under § 33-1205 and § 33-1207.

Requests for Access to Confidential Pesticide-related Data

Chapter 279 established a Pesticide Sales and Use Database, maintained by the New York State Department of Environmental Conservation (DEC) in conjunction with Cornell University, pursuant to the New York State Environmental Conservation Law (ECL) § 33-1201 through § 33-1207. The database contains mandated reports of pesticide applications by all commercial applicators. In addition, entities that offer restricted-use pesticides for sale to private applicators for use in agricultural crop production must report any such sales.

The data include: 1) reports of pesticide applications submitted to DEC by commercial applicators and technicians; 2) reports of sales of restricted pesticides to private applicators; and 3) reports of general-use pesticide sales for use in agricultural crop production. While a large portion of the database is public, some of it is confidential and may only be released to those engaging in human health-related research, pursuant to the Board's approval and contingent on compliance with established criteria.

Researchers seeking confidential pesticide registry information or pesticide application information can access pertinent documents at <http://www.health.state.ny.us/environmental/pesticide/reporting/> or by contacting the DOH toll-free at 1-800-458-1158. The following researcher access documents will be provided: Request for Pesticide Registry or Pesticide Application Information; Guidelines to Restrict the Dissemination by Researchers of Confidential Pesticide Registry and Pesticide Application Information; Agreement to Maintain Confidentiality; and an information sheet that summarizes these documents in lay language.

During this reporting period, no applications were received from researchers during 2013-2014 for use of the confidential pesticide sales and use data in human health-related studies.

Board Recommendations

PHL § 2413 requires reporting of the recommendations from the Health Research Science Board including, but not limited to, the types of data that would be useful for breast cancer researchers and whether private citizen use of residential pesticides should be added to the reporting requirements.

During its April 19, 2013 meeting, the Board voted to eliminate the reporting of pesticide sales and use data consistent with the 2012 recommendation of the *Committee on Program Needs and Effectiveness*:

"The Committee has found that the pesticide database no longer meets its primary purpose, to provide scientifically useful information regarding the relationship between pesticide use and human health, and recommends that the database should be abolished."

Following acceptance of the Board's recommendation by the Commissioners of Health and Environmental Conservation, changes to the Pesticide Reporting Law (ECL, Article 33, Title 12) were proposed in the SFY 2014-2015 budget. A public hearing on Pesticide Sales and Use Reporting was convened on June 5, 2014 by the Assembly Standing Committee on Environmental Conservation and the Assembly Standing Committee on Health. This public hearing proceeding may be obtained by visiting the New York State Assembly archives at <http://assembly.state.ny.us/av/hearings/>. No changes were made to the law.

The following information is included in [Appendix 1](#)

- Pesticide Sales and Use Reporting
- Reports on Pesticide-Related Topics and on Studies Using or Referring to the Pesticide Sales and Use Database
- Research Study Referring to the Pesticide Sales and Use Database
- Status of Agency Actions on HRSB Recommendations on Pesticide Reporting 2000-2014

Comments and Recommendations Presented by the Public at Annual Public Hearings

PHL § 2413 requires the reporting of a summary of the comments and recommendations presented by the public at the Board's public hearings.

No public hearings were convened by the Health Research Science Board during this reporting period.

APPENDIX 1

STATE OF NEW YORK DEPARTMENT OF HEALTH HEALTH RESEARCH SCIENCE BOARD

I. Pesticide Sales and Use Reporting

The DEC mailed notices on December 16, 2013 to the regulated community reminding them to file an annual report of pesticide applications and/or sales made in 2013. A total of 16,926 applicators, technicians, aquatic antifouling paint applicators, and 305 commercial permittees were required to file an annual report. The reports were due February 1, 2014.

Overdue notices were mailed in April 2014 to 1,552 applicators and technicians and 31 commercial permittees notifying them DEC had not received their 2013 annual report. Many of them responded. Notices of Violation and Consent Orders were mailed later that month to 866 applicators, technicians and aquatic antifouling paint applicators, and 12 commercial permittees that still had not submitted a report as instructed.

Sixty-seven applicators, technicians, and aquatic antifouling paint applicators and one commercial permittee paid the fine to resolve their violation. Violations were resolved or removed for 84 applicators, technicians, and aquatic antifouling paint applicators and one commercial permittee for various reasons (lost mail, typographical errors, extenuating circumstances). In addition, 88 applicators, technicians, and aquatic antifouling paint applicators voluntarily surrendered their certification. A total of 7,169,550 records (which includes sales and applications) were reported for 2013. Of those, 6,085,802 were submitted electronically and 1,083,748 were submitted on paper reports.

Available Annual Reports

The DEC identified gross errors that affected the data statewide for 2006, 2007, 2008, 2009 and 2010 report years. DEC and Cornell staff worked diligently to correct that data. In the summer of 2014 the corrections were completed for the 2006, 2007, 2008 and 2009 data. The annual reports for those years were posted to the DEC web site and the searchable data for those years were made available on Cornell's Pesticide Sales and Use Reporting website (<http://psur.cce.cornell.edu/>). Staff continue to make corrections to the 2010, 2011 and 2012 data, which is expected to be made available to the public.

Uses of the Data

Management of data reported under the Pesticide Reporting Law (PRL) program commenced in 1996/1997. DEC and Cornell receive, review and aggregate the data by zip code and County for public use. Only health researchers approved by the HRSB can access and use the site-specific application and sales data. Data about pesticide applications, or data that can approximate it, is needed for investigating potential environmental impacts from such use. This is important in terms of fulfilling the mandate under Title 7 of Article 33 of the ECL to utilize water quality information in making product registration decisions as well as implementing other DEC initiatives. Municipalities, public interest groups and others also can and do use the annual aggregated information for education and outreach and other purposes.

Since inception, only two entities have requested the confidential, site-specific data. New York City Department of Health and Mental Hygiene (DOHMH) requested the confidential data for a surveillance project on birth outcomes in New York City; and Cornell University's Water

Resources Institute (one of DEC's contractors for groundwater monitoring) requested the confidential data to help them decide where to monitor groundwater.

Efforts to Improve Data Quality

The large volume of annual report data has proven very cumbersome to manage due to errors in numerous individual reports. Based on this and other factors, the HRSB determined that the pesticide database no longer meets its primary purpose, to provide scientifically useful information regarding a relationship between pesticide use and human health, and recommended that the pesticide reporting database be eliminated. Following the Board's recommendation, but in light of the need for data for education, outreach, monitoring and investigation purposes mentioned above, changes to the PRL were proposed in the SFY 2014/15 Executive Budget intended to improve data quality, utility and timeliness. Those changes were not enacted.

Since then, DEC has attempted to improve data quality in several ways. DEC met with representatives of several associations representing commercial and private applicators in 2014 to discuss their concerns and questions about reporting and recordkeeping. Staff from DEC, Cornell and DEC's database contractor met with staff from NYC DOHMH for a discussion and demonstration of their on-line pesticide reporting program. The 2014 annual report notices sent to applicators in January 2015 included more detailed instructions than past notices, along with examples of common reporting errors to avoid.

For the 2014 annual reports, DEC reinstated a process of reviewing paper reports as they are received. When errors are identified, DEC staff reach out to the submitter to correct them. Similarly, staff at Cornell also review the electronic reports for errors as they are received. If an error is identified, the report is rejected and the submitter is contacted to correct the report. Staff sent out over 400 of these rejection letters for 2014 reports. It is hoped that this will serve two purposes. First, it will improve the data going into the database and therefore require less data correction after it has been entered into the database. Secondly, it is hoped that once the submitter is aware of their errors and how to correct them, they will submit better quality reports for the following years.

DEC is also in Phase 2 of a multi-phase project to develop an in-house pesticide program database, which will replace the databases managed by Cornell. A planned future phase will move the pesticide reporting database to the DEC. It is anticipated this will include the development of a web-based portal for the submission of pesticide annual reports. This portal is expected to have built-in verification requirements and other features to make reporting easier and improve data quality by preventing some, but not all common data input errors. Other methods that might streamline and simplify electronic reporting for pesticide applicators will be evaluated and pursued at that time.

Concerns about the efficiency and utility of the data for health research purposes led the HRSB to recognize in 2013, "that the pesticide database no longer meets its primary purpose, to provide scientifically useful information regarding a relationship between pesticide use and human health, and recommends that the database should be abolished." The Board therefore recommended that §§33-1205 and 33-1207 of the ECL be modified so that reporting of pesticide use and sales is no longer required and related provisions of Public Health Law be modified as appropriate.

Despite DEC and Cornell's efforts to improve the submitted data, significant and serious concerns remain about its quality and the tremendous resources expended to manage this

voluminous data, which is not being utilized as originally envisioned by the PRL. While the current PRL data may not be used or useful for health research purposes, as mentioned above, it is important and necessary to collect some form of pesticide sales and use data for monitoring, investigation, trend analysis, outreach and education, and other evaluations. It is recommended that the PRL be modified to accomplish these purposes.

II. Reports on Pesticide-Related Topics and on Studies Using or Referring to the Pesticide Sales and Use Database

The following reports on pesticide-related topics have been issued since the Board's inception. The Legislative mandates for the reports are noted in parentheses:

- Data Sets Collected and Maintained by New York State Government that May Assist Researchers Engaged in Breast, Prostate or Testicular Cancer Research, January 1999 [Public Health Law Section 2412(a) and (b)]
- Pesticide Use and Pesticide Exposure, May 1999 [Public Health Law §2411(1)(f)]
- Reference List: Pesticide Use and Pesticide Exposure, May 1999 [Public Health Law §2411(1)(f)]
- Reference List: Pesticide Use and Pesticide Exposure, September 2002 [Public Health Law §2411(1)(f)]
- Comparison of Pesticide Reporting and Pesticide Use, February 2000 [Public Health Law §2411(1)(g)]
- Survey Results and Recommendations – Pesticide Reporting Law, February 2001 [Public Health Law §2413]
- Results of the 2002-2003 Survey on Pesticide Reporting and Board Recommendations, March 2005 [Public Health Law §2413]
- Household Pesticide Use Report to the Health Research Science Board, June 2009 [Public Health Law §2413]

Copies of these reports or information about the Board's pesticide-related activities may be obtained by calling the DOH toll-free at 1(800) 458-1158, extension 2-7950.

III. Research Study Referring to the Pesticide Sale and Use Database

During this reporting period, one article was published that was stimulated or influenced by the pesticide database:

McKelvey, W, Jacobson, JB, Kass, D, Barr, DB, Davis, M, Calafat, AM, Aldous, KM. "Population-based biomonitoring of exposure to organophosphate and pyrethroid pesticides in New York City." *Environ Health Perspect.* 2013; 121:1349-1356.

IV. Status of Agency Actions on HRSB Recommendations on Pesticide Reporting 2000-2014

SOURCE*	RECOMMENDATION	STATUS
	Recommendations not requiring a change in legislation	
2000(2)	1. Continue to inform researchers of the availability of funds for research on cancer and of the availability of the pesticide data for research.	This is an ongoing effort. The availability of funds continues to be publicized. A web page describing and linking to the Pesticide Sales and Use Database has been added to NYSDOH's Environmental Public Health Tracking web site.
2000(3), 2006 (2), 2010 (5)	2. DEC should emphasize accurate reporting of the data by continuing to develop and implement quality assurance and quality control procedures. Incorporate checks on the following (2006): <ul style="list-style-type: none"> a. very similar amounts reported for multiple ZIP codes b. liquids reported as pounds and solids as gallons c. quantities reported at county and ZIP code levels that differ by more than an order of magnitude d. outliers. 	This is an ongoing effort. (See also #5 in this section.) DEC reinstated checking of paper reports as they are received, an activity suspended for a period due to resource constraints. Electronic reports are also reviewed as they are received. Reports with errors are rejected and the submitter contacted to correct the report. Programs continue to be used to identify and correct errors in the database. DEC is developing an in-house pesticide database that is expected to include a web-based portal for reporting that will have input requirements that will improve data quality by preventing some, but not all common errors.

SOURCE*	RECOMMENDATION	STATUS
2000(4c)	3. Explore ways to assist the pest control industry with the difficulty of reporting amount of concentrate when commercial applicators deal with diluted material.	This is an ongoing educational effort. DEC has done extensive telephone outreach on a case-by-case basis and group meetings and presentations educating applicators how to report correctly. Programs conduct quality checks to find quantities that appear to fall outside of accepted parameters. Not all such errors are detected. However, staff review the “out of range” quantities they identify and contact the responsible applicators and businesses. With the approval of the applicator or business, staff corrects the reporting errors. The input requirements for the web-based portal for reporting being developed will also partially address this issue (see #2 in this section.)
2000(4d)	4. Explore ways to assist reporting of locations without street address (e.g., rights of way, streams, parks, and aerial applications), such as use of a Geographic Information System (GIS) approach.	This is an ongoing effort. A GIS approach cannot currently be used for reporting in all areas of the state; some options, such as reporting mile markers, stream tributary numbers, etc., have been implemented, while others are still being explored.
2000(4e)	5. Explore methods to increase or improve reporting, possibly through development of additional outreach and/or enforcement activities and electronic reporting.	In 2014 DEC met with several associations of commercial and private applicators to discuss concerns and questions, and with NYCDHMH to discuss their on-line reporting program. More detailed instructions on reporting were sent to applicators, including examples of common errors to avoid. Enforcement actions are taken each year against applicators and sellers that do not report. Over 85% of the more than 7 million records reported for 2013 (sales and applications) were reported electronically.
2006 (3), 2010 (3)	6. Explore the possibility of making available an application line-item dataset with no confidential information for counties and ZIP codes.	DEC will explore the feasibility of a line-item dataset for counties and ZIP codes. This initiative would require additional resources.

SOURCE*	RECOMMENDATION	STATUS
2006 (4), 2010 (4)	7. To county and ZIP code data, explore the possibility of adding number of applications, license type to distinguish structural and landscaping activities, and summary statistics (mean, median, maximum).	DEC will explore the feasibility of adding the number of applications to county and ZIP code data. In most cases, reports are not submitted by an individual applicator, but by businesses, listing all applicators in their employ. In addition, many applicators have multiple categories of certification. Therefore, license type cannot be determined for each application. This initiative would require additional resources.
2006 (5), 2010 (8)	8. Explore ways to include fields from the Pesticide Product Ingredient and Manufacturer System (PIMS) or to include the ability to link to PIMS or to the EPA Pesticide Product Information System.	There are links to PIMS available on the website, but not within the report data. This would require major programming changes to the database. This initiative would require additional resources.
2006 (7)	9. Increase DEC's budget and the funds provided by contract to Cornell.	The funds allocated under the Environmental Protection Fund (EPF) for PRL-related activities has varied yearly and has not allowed for increased contract funding for Cornell's activities.
2010 (1)	10. Release publicly available data for 2006 and subsequent years	Errors in data reported for 2006-2010 were identified and corrected. Annual reports for 2006-2009 were posted on the DEC web site in 2014, and the data were added to the searchable database on the Cornell web site. Staff continue to make corrections to the 2010-2012 data, which are expected to be made available to the public in 2015.
	Recommendations that may require a change in legislation	
2006(1), 2010 (2)	Allow local health agencies access to the confidential data for surveillance purposes	Researchers including local health agencies can apply to the Health Research Science Board for access to the confidential data. One of the criteria for releasing the data is that the data have to be used for human health-related research. Some forms of surveillance may be considered research, while other forms may not meet the criterion for human health-related research. A change in law would be required to allow local health agencies access to the confidential data without requesting the data from the Health Research Science Board.

SOURCE*	RECOMMENDATION	STATUS
	Recommendations requiring a change in legislation	
2013	The Board found that the pesticide database no longer meets its primary purpose, to provide scientifically useful information regarding the relationship between pesticide use and human health, and recommended that the database should be abolished.	Changes to the Pesticide Reporting Law intended to improve data quality, utility, and timeliness were proposed in the SFY 2014/15 Budget. Those changes were not enacted. However, the deficiencies in the PRL have not been eliminated despite steps to mitigate them.
2000(L1)	1. Change the date by which DEC must issue its report to the Governor and Legislature to allow a longer period for quality control and quality assurance of the data. If partial data are released, they should be available as soon as possible; the final report should contain only high quality data; and the data and report should be readily accessible.	Change of date would require statutory change. Quality assurance of the data and education efforts directed to the regulated community are ongoing efforts. All non-confidential data are publicly available on the internet or by requesting a CD-ROM.
2000(L2)	2. DEC should identify options for including data on pesticides applied by private applicators (primarily farmers) in the database and report on these options to the Board.	Including these data in database and reports would require a statutory change.

SOURCE*	RECOMMENDATION	STATUS
2000(L3), 2006 (L2), 2006 (L3), 2010 (7)	<p>3a. DEC should identify options for including data on target organism and crops to which pesticides are applied in the database and report on these options to the Board.</p> <p>3b. Mandate reporting of dosage rate and target organism.</p> <p>3c. Include crop/site of application (for those reporting) and include the crop/site for private applicator sales of general use pesticides intended for agricultural purposes.</p>	Including these data in database and reports would require a statutory change.
2000(L4)	4. DEC should identify options for including data on pesticides purchased and applied by private citizens in the database and report on these options to the Board, and should review the upcoming reports from Wisconsin and Oregon, which are currently conducting scoping studies of this issue.	The Board reviewed results of Oregon's pilot survey on household use reporting and voted not to pursue such a survey in New York because of questionable usefulness and the greater cost of conducting such a survey in New York.
2006 (L1), 2010 (6)	5. Mandate electronic reporting.	An electronic reporting option is in place and was emphasized at workshops held throughout the state and by direct mailing to applicators and sellers. Due to extensive outreach efforts, electronic reporting has increased, with over 85% of the more than 7 million records reported for 2013 (sales and applications) reported electronically. However, to mandate electronic reporting would require a statutory change.

SOURCE*	RECOMMENDATION	STATUS
2006 (L4)	6. Revise the requirement for the length of time that commercial applicators, sellers of pesticides, and private applicators must maintain records, to a period of not less than 7 years.	This would require a change in statute. The law currently states that records must be maintained for a period not less than 3 years.
	Recommendations that have been implemented	
2000(4a)	1. Include a reference in the report to the Governor and Legislature to the Pesticide Poisoning Registry Report from NYSDOH.	Done. The annual report to the Governor and Legislature now includes a reference to the Pesticide Poisoning Registry.
2000(4b)	2. Include a reference in the report to the Governor and Legislature to documents that will provide information on the potential for specific pesticides to leach into the groundwater.	Done. The annual report to the Governor and Legislature includes a reference to documents that provide information on the potential for specific pesticides to leach into the groundwater.
2002-03(3)	3. Include in the biennial reports references to studies that have been stimulated or influenced by the database as examples of how PSUR data could stimulate higher-level research.	A list of studies published in the scientific literature that were stimulated or influenced by the PSUR data appeared in the 2003-04 biennial report. Additional publications are presented in each subsequent report.
2000(1), 2006 (1)	4. NYSDEC should express data in both pounds of product and pounds of active ingredient.	Done. This requires knowing the specific gravity of every product registered in NYS. DEC altered its internal processes to capture this information as products are registered. It has taken several years to capture most of the specific gravities for the 14,000 registered products. DEC made significant progress toward expressing data in both pounds of product and pounds of active ingredient. DEC and Cornell developed a website which provides active ingredient summarizations of the data, starting with year 2003 data.

SOURCE*	RECOMMENDATION	STATUS
2002-03(2)	5. Modify the web sites for ease of use and flexibility in creating reports.	The active ingredient website provides a more modern look and feel. It provides multi-year searching capabilities. It also incorporates a number of features that enhance the site's usability. For example, to make it easier to identify which zip codes to use in a search, the user can select all the zip codes that are contained in or partially contained in a county. Documents have been added to the site to assist in pesticide product searches, including FAQs, a data dictionary, and glossary.
2002-03(4)	6. Explore the possibility of using pesticide-poisoning data in conjunction with the PSUR data.	Using pesticide poisoning data in conjunction with the PSUR data would not be productive since about 99% of the pesticide poisoning reports involve improper use of unrestricted pesticides that can be purchased at retail outlets, such as hardware stores and home centers. These products are not included in the PSUR database. However, DOH is exploring the usefulness of the PSUR data for environmental health surveillance as part of the Environmental Public Health Tracking Program.
2006 (6)	7. Explore ways to decrease the time from a researcher's request for the confidential data to receipt of the data.	The Committee on Access to Pesticide Registry and Pesticide Application Information modified its process to improve efficiency by incorporating a pre-review process whereby 3 members of the committee review the application to determine if it has enough information for the committee to make an informed decision. Without delaying scheduling of a meeting of the Board, staff members work with the applicant to obtain any additional information needed before the meeting.
2002-03(1)	8. Explore whether the data can be aggregated by different categories such as use category, different geographical units, etc.	Done. The active ingredient website contains data aggregated by use category (fungicides, insecticides, herbicides, etc.), as well as statewide, county, zip code or DEC Region.

*Year of survey from which recommendation originated, with number from the original table or list.

APPENDIX 2

Roster of Members

January 1, 2013 - December 31, 2014

Douglas Conklin, Ph.D., Chair ^{1,4}
State University of New York at Albany
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Santo M. DiFino, M.D., Chair ^{1,5}
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Beverly Canin ²
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Maria Torroella Carney, M.D. ^{1,4}
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Great Neck, NY & New Hyde Park, NY

Victoria Derbyshire, Ph.D. ³
New York State Department of Health
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State University of New York College at Cortland
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Anthony Hay, Ph.D. ^{3,5}
Cornell University
Ithaca, NY

James B. Hicks, Ph.D. ¹
Cold Spring Harbor Laboratory
Cold Spring Harbor, NY

M. Suzanne Hicks, M.S.W. ¹
Capital Region Action Against Breast Cancer!
(CRAAB!)
Regional member, Northern NY Region

Russell Hilf, Ph.D. ^{1,5}
University of Rochester
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Diana E. Lake, M.D. ¹
Memorial Sloan-Kettering Cancer Center
New York, NY

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Gary Morrow, Ph.D. ^{1,5}
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Arun Puranik, M.D. ^{1,5}
Image Guided Radiation Therapy
Latham, NY

Catherine Putkowski-O'Brien, L.C.S.W. ^{2,4}
Research Foundation of the City University of New
York; Licensed Certified Social Worker Private
Practice
Staten Island, NY

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Neeta Shah, M.D. ^{1,5}
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James L. Speyer, M.D. ^{1,4}
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University
Syracuse, NY

Wendy Watkins ^{1,4}
Corporate Communications, Delaware North
Companies
Buffalo, NY

Marc Wilkenfeld, M.D. ¹
Winthrop University Hospital
New York, NY

¹ Voting member as of December 31, 2014

² Non-voting member as of December 31, 2014

³ Ex-officio non-voting member

⁴ Appointed during 2013-2014

⁵ Service concluded during 2013-2014

APPENDIX 3

STAFF SUPPORT TO THE BOARD

DEPARTMENT OF HEALTH

**Wadsworth Center
Extramural Grants Administration**

Bonnie Jo Brautigam
Executive Secretary to the Board

Teresa K. Ascienzo

Charles J. Burns¹

Mary Rogers²

Jeannine M. Tusch¹

**Center for Environmental Health
Bureau of Environmental and
Occupational Epidemiology**

Syni-An Hwang, Ph.D.

Carole Ju, M.S.

**Division of Legal Affairs
Bureau of House Counsel**

Diana Yang, J.D.

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**Division of Materials Management
Bureau of Pest Management**

Richard Dickinson

Scott Menrath, P.E.

¹ Service commenced during 2013-2014
² Service concluded during 2013-2014