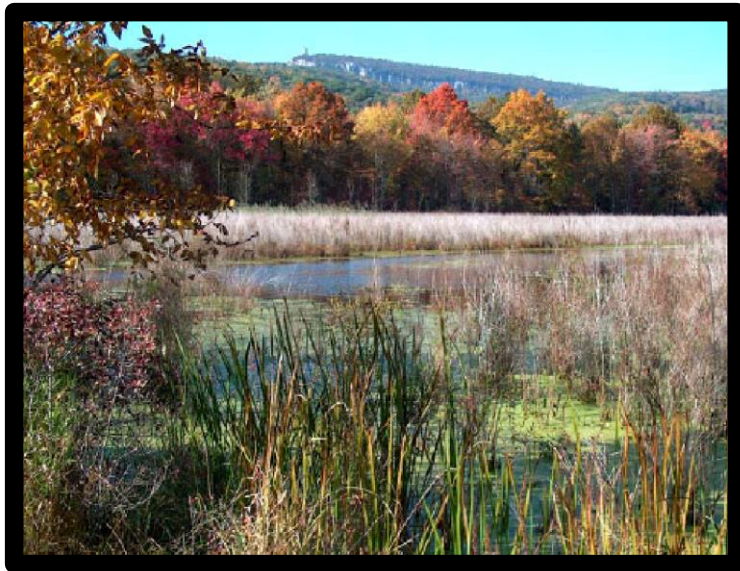

Building Local Capacity for Conservation and Land-Use Planning in the Hudson Valley: Evaluation of the Hudson River Estuary Program's Biodiversity Outreach Program



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EXECUTIVE SUMMARY

Background

Since 2001, the goal of the Hudson River Estuary Program's (hereafter, Estuary Program) Biodiversity Outreach Program has been to help municipalities and other local and regional decision makers in New York's Hudson River Estuary watershed to conserve and enhance biodiversity through land-use planning. The Estuary Program conducts programming to foster inclusion of biodiversity objectives and principles into local plans, policies, and procedures. The Outreach Program educates and builds capacity in local governments using tools such as workshops and training, data sharing, grants, and technical assistance. To date, decision-makers representing over 112 different municipalities have engaged in the program, but little is known about long-term impacts, nor are there protocols in place with measurable criteria and indicators for assessing overall program effectiveness.

Overview of Research

In response to the gap identified above, the Human Dimensions Research Unit (HDRU) worked collaboratively with Estuary Program staff to create an evaluation framework to assess the impact of the Biodiversity Outreach Program. The primary objectives of this project were to understand indicators of program success and effectiveness, including short- and long-term impacts such as behavior, attitudes, motivations, and constraints for incorporating biodiversity considerations into land-use plans, policies, and procedures.

Methods

The primary methods used to create this evaluation framework included:

- 1) A literature review and synthesis of key factors influencing program and policy effectiveness and impact
- 2) Interviews with key Estuary Program and partner staff to determine goals and objectives of programs
- 3) Preliminary review and assessment of existing evaluation materials
- 4) Survey of past program participants and non- participants using the evaluation framework, and
- 5) Final analysis and recommendations to inform the program and a long-term evaluation protocol.

Summary of Results

Based on our findings, the Hudson River Estuary Program has met the stated program goals of providing the tools, information, assistance, and funding to enable participants to be more effective in decision-making roles around land use, biodiversity, and conservation issues in their communities. More than 70% of respondents to the participant survey stated that the Estuary Program helped them in their position. At least two-thirds considered the Program to be useful; almost all stated that several offerings—such as the Biodiversity Assessment Short Course, Estuary Program presentations, technical assistance, and receipt of Estuary Grants—were very useful.

Participants gained an understanding of the principles of conserving biodiversity, factors that contribute to the loss of biodiversity, and its importance to their municipalities. As a result of the

training, they are now able to identify specific land-use practices to conserve or enhance habitat and are better able to inform land-use decisions. Technical skills, such as habitat identification, mapping methods and field assessment, were developed. Participants demonstrated application of knowledge and skills gained when describing their successes, such as advocacy and awareness-raising, and planning, conservation, stewardship, and recreation outcomes.

Results showed that participants often serve on concurrent boards, and certain pathways may exist between board positions; for example prior Comprehensive Plan Committee members later serve on Planning Boards and Conservation Advisory Councils, demonstrating continuity in land-use planning activities. Other findings showed that municipalities were less likely to have planners, wetland inspectors or biologists/ecologists on staff, instead relying on contractors for these roles; however, more than half of municipalities do use computer-based mapping technologies.

Participants also shared Estuary Program information and resources with their boards, colleagues, and officials from other towns or municipalities, further expanding the reach and impact of the program. Participants were able to draw on the existing local network of experts and practitioners in biodiversity and land-use conservation for guidance and technical assistance.

Town and Village Board and City Council membership was underrepresented in outreach program participants; recruitment could be targeted to these elected officials. Additionally, those in the early stages of their land-use planning experience could benefit from participation in the program. Training modules emphasizing communications, empowerment and leadership skills development could improve participants' ability to communicate biodiversity and conservation issues to elected officials, local leaders and fellow residents.

The majority of respondents were 55 years of age or older and tended to have graduate degrees. This is consistent with prior findings on the composition of volunteer advisory boards, from which the pool of Estuary Program participants is drawn. In general, greater diversity (age, education, race, socio-economic) of municipal leadership positions is encouraged to better represent the composition, needs, and interests of local communities and their land-use planning goals, but this is a larger issue of the boards from which the Estuary Program draws participants.

We also found that sharing among peers was common. Future iterations of the program could build on existing networks to encourage greater interaction and information exchange. One of the key barriers identified was lack of funding. We recommend the continuation of funding and grant opportunities to maintain or increase education offerings and technical assistance, resulting in the greater likelihood of sustaining longer-term biodiversity conservation goals.

Acknowledgments

We would like to thank all the municipal officials and organizational staff who completed the survey and shared their experiences with us. We are also grateful to Karen Strong and Laura Heady of the Hudson River Estuary Biodiversity Program for their contributions as collaborators in this research. This Project was funded by the New York State Environmental Protection Fund through the Hudson River Estuary Program of the New York State Department of Environmental Conservation.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	3
Table of Contents	5
List of Tables	7
List of Figures	9
INTRODUCTION	10
Biodiversity and Land-Use Planning	10
Biodiversity Outreach Program	11
PROGRAM EVALUATION	12
Training Program Evaluation	14
Social and Policy Capacity as Program Outcomes	15
Indicators	16
Evaluation Framework for the HREP Biodiversity Outreach Program	17
EVALUATION QUESTIONS	20
INTERVIEW AND SURVEY METHODOLOGY	20
Interviews with Key HREP Stakeholders	20
Participant Survey	21
Non-Participant Survey	21
Sampling Methodology	21
Survey Implementation	22
Survey Analysis	22
RESULTS	23
Interviews of Biodiversity Outreach Program Stakeholders	23
Survey of HREP Biodiversity Outreach Program Participants	23
Length of Time and Participant Role in Land-Use and Conservation Planning	24
Past and Current Land-Use Planning Positions	24
Time Spent in Land-Use Planning Role	26
Environmental Attitudes	30
Program Participation Details	30
Other Trainings and Workshops about Land-Use Planning to Protect Natural Resources	33
Skills and Knowledge Gained	34
Lessons Learned	36
Informing Land-Use Procedures, Plans, and Policies	36
Procedures, Plans, and Policies by Training or Assistance	39
Municipal Actions Informed by Training or Assistance per Board, Commission, or Committee	41
Relationship between Trainings and Assistance and Plans, Policies and Procedures	42
Success Stories in Land-Use Planning	42
Barriers to Program Participation	43
Board, Commission, and Committee Capacity	44
Municipal Capacity	46
Municipal Barriers	51
Participant/Non-Participant Comparison	52
Socio-Demographic Attributes	53
Environmental Attitudes	53

Municipal Plans to Conserve Habitat and Biodiversity	53
Time Spent on and Barriers to Habitat Conservation.....	53
Interactions with Other Agencies	54
Board/Commission/Committee Barriers	54
Natural Resource Conditions, Conservation Priorities, and Demand for Information.....	54
Influences on Conservation	55
SUMMARY AND RECOMMENDATIONS.....	56
Program Participation.....	56
Program Outcomes and Impact.....	57
Estuary Program Impact on Land-Use Plans, Policies, and Procedures	58
Past and Current Land-Use Planning Positions.....	59
Municipal Policy Capacity	59
Board, Commission, Committee Capacity	59
Time Spent on Land-Use Planning Role	59
Municipal Board Working Relationships	60
Interactions with Other Governing Bodies	60
Motivating Factors	60
Demand of Natural Resources Information/Resource Availability	60
Priority Issues.....	61
Sources of Natural Resource Information	61
Additional Needs.....	61
CONCLUSIONS	62
Literature Cited	63
Appendix A: Participant Survey Instrument with Frequencies	67
Appendix B: Non-Participant Survey Instrument with Frequencies	151
Appendix C: Telephone Survey of Non-Respondents to the Participant and Non-Participant Surveys.....	174
Appendix D: Non-Participant Survey Results	178
Appendix E: Comparison of Participant and Non-Participant Survey Results.....	185
Appendix F: Frequency of Land-Use Planning Tasks by Position.....	215
Appendix G: Summary of Recommendations	221

LIST OF TABLES

Table 1. Potential evaluation indicators for HREP Biodiversity Outreach Program.....	18
Table 2. Have you ever served or are you currently on a municipal board, commission, or committee?	24
Table 3. Cross-tabulation between past and current positions in land-use planning.....	26
Table 4. Time spent on land-use planning, monthly, by position.....	28
Table 5. Mean frequency of land-use planning tasks	29
Table 6. Assessment of Environmental Attitudes: “To what extent do you agree with the following statements?”.....	30
Table 7. How useful was the training or assistance you received to your work, sorted by mean usefulness.....	31
Table 8. Program Participant Motivations	32
Table 9. Information sharing by program participants.	33
Table 10. Other trainings and workshops that provide information about land-use decisions to protect natural resources, attended by participants	34
Table 11. Respondent outcomes from participating in Estuary Program.	35
Table 12. Have you used the biodiversity information, assistance, and training provided by the Estuary Program to help your municipality with any of the following municipal procedures to reduce negative impacts to habitats and natural areas?	37
Table 13. Have you used the biodiversity information, assistance, or training provided by the Estuary Program to help your municipality create, update, or provide recommendations to any of the following municipal plans or inventories?.....	38
Table 14. Have you used the biodiversity information, assistance, and training provided by the Estuary Program to help your municipality with any of the following municipal policies or actions?	39
Table 15. Mean number of municipal plans, policies, and procedures that participants adopted using information, assistance, or training from the Estuary Program. Significant mean differences are indicated with superscript.....	40
Table 16. Mean numbers of municipal actions taken that were informed by the program trainings and/or assistance per municipal board, commission, or committee. Have you used the biodiversity information, assistance, and training to help your municipality with any of the following procedures, plans/inventories, or policies/actions?	41
Table 17. Correlations between program trainings/assistance and municipal actions taken.	42
Table 18. Reasons participants did not use information/tools from the Estuary Program	43
Table 19. Factors that influenced the time and attention given to habitat conservation by the respondents’ board/commission/committee or organization/department.	45

Table 20. Needs of the board, commission, committee or organization/department to better incorporate biodiversity in land-use or conservation planning.....	46
Table 21. Does your municipality staff the following positions?	47
Table 22. Municipal leadership and resident engagement.....	47
Table 23. Participant and non-participant priority conservation issues.	55

LIST OF FIGURES

Figure 1. Diagram of the Planning-Process-Product evaluation model (adapted from Jacobson 1998).	13
Figure 2. Hours per month spent by BCC members in land-use or conservation planning (including time spent in preparation, site visits, meetings, etc.).....	27
Figure 3. How much has your participation in the program helped you in your position in the community?.....	32
Figure 4. Demand for natural resource and biodiversity information and available resources over the last five years within the respondents' board/commission/committee.	44
Figure 5. The rated condition of communities' natural resources.	48
Figure 6. Change in condition of communities' natural resources over the last ten years	49
Figure 7. Change in communities' willingness to conserve natural areas and wildlife over the last five years	49
Figure 8. Findings of whether municipalities have adequate plans, policies, and procedures in place to conserve biodiversity.....	50
Figure 9. Expectations that municipality will take steps within the next five years to conserve habitats and biodiversity	51
Figure 10. Average rating of municipal barriers to adoption of conservation-related PPPs	52

INTRODUCTION

Biodiversity and Land-Use Planning

“It is reckless to suppose that biodiversity can be diminished indefinitely without threatening humanity itself.” -- Edward O. Wilson

“The integration of science into land use planning will improve both enterprises: it will make science more relevant and useful to society, and it will make land use planning more accountable, sustainable, and grounded in the real world of biophysical ecosystems on which human society will always depend.” --Reed Noss

The term “biodiversity” refers to biological diversity at several scales: genetic, species, and ecosystem. Biodiversity includes all species, the habitats where they live, and the broader landscape, and includes the interactions between living things, and between living things and their physical environment. Healthy levels of biodiversity within ecosystems provide humans with “ecosystem services” such as productive agriculture, clean water, clean air, medicinal products, educational opportunities, and recreational activities (Diaz et al. 2006).

The watershed of the Hudson River estuary has biodiversity of national and global significance. The Hudson Valley’s varied geology creates a tapestry of habitats, such as pine barrens, grasslands, cliffs, mountain ranges, caves, streams, and wetlands, including globally rare freshwater tidal wetlands. Comprising only 13.5% of the land area of New York State, the region contains nearly 85% of the bird, mammal, reptile, and amphibian species that occur throughout the state, and has been recognized for its globally-significant turtle diversity, nationally-significant dragonfly and damselfly diversity, and migratory habitat for birds and diadromous fish (Penhollow et al. 2006).

The fate of this rich biodiversity depends on the thousands of land-use decisions made every day by the region’s 260 municipal governments. Municipal issues such as site planning, subdivision regulations, zoning, open space protection, and future growth areas can have direct impacts on a community’s natural assets (e.g., habitats, watersheds, landscape features). By integrating conservation information and principles into land-use planning, decision-makers can help to maintain biodiversity. However, it can be difficult to meet the needs of both conservationists and land-use planners, as well as have land-use planners effectively use conservation practices when forming plans, policies, and procedures (Berke 2008).

Conservationists and local governments agree that there is a need for more biodiversity education in local, state, and federal government in order to better integrate conservation actions in land-use planning (Miller *et al.* 2009, Rands *et al.* 2010, Stokes *et al.* 2010). Local land-use decision-makers’ important role in conserving biodiversity is widely recognized (Stokes et al. 2010; Beatley 2000; Dale et al. 2000; Mason et al. 2007), leading to numerous proposals for greater incorporation of ecology and conservation biology principles in local land-use planning (e.g., Beatley 2000; Dale et al. 2000; Mason et al. 2007).

The NYSDEC Hudson River Estuary Program (HREP) addresses this need through the Biodiversity Outreach Program, which was designed to provide biodiversity education and support to municipal officials and regional partners in the watershed. Local officials from more than 100 New York municipalities and other local and regional decision-makers and land-use planners have participated in the program. However, little is known about the Biodiversity Outreach Program's long-term impact, nor are protocols in place with measurable criteria and indicators for assessing long-term effectiveness.

Biodiversity Outreach Program

Since 2001, the Estuary Program's Biodiversity Outreach Program has helped municipalities and other local and regional decision-makers and land-use planners in the Hudson River Estuary watershed to conserve and enhance biodiversity. During that time, Estuary Program staff has conducted outreach programming intended to enhance inclusion of biodiversity objectives and principles into local plans, policies, and procedures. The Biodiversity Outreach Program uses many tools to reach out to local governments, including workshops and training, presentations, data sharing, grants, and technical assistance. These trainings teach interested parties how to use conservation tools such as remote sensing (e.g., topographic, geologic, and soil maps) and assessments (e.g., identifying important habitats and verifying in the field), and present methods on using biological data in environmental reviews and land-use planning so that impacts to biodiversity can be avoided or minimized.

Very few biodiversity conservation-specific efforts in land-use planning have been evaluated (Bengston *et al.* 2004, Ferraro and Pattanayak 2006, Jenks *et al.* 2010, Carleton-Hug and Hug 2010, Heimlich 2010). In response to this need, this project is intended to develop an evaluation framework to measure the effectiveness of the Biodiversity Outreach Program's trainings and support tools in the Hudson River Estuary watershed.

The Estuary Program's core mission is to ensure clean water; protect and restore fish, wildlife, and their habitats; provide water recreation and river access; help communities adapt to climate change; and conserve scenery. To accomplish this mission, the Estuary Program is guided by an Action Agenda that includes: grants and restoration; education, research and training; natural resource conservation; and community planning assistance. The Biodiversity Outreach Program is a component of one of the twelve Action Agenda goals and is typically implemented by two full-time staff and key partners, and includes the following elements (Hudson River Estuary Action Agenda 2010-2014, June 2010):

- 1) Convey biological information and technical assistance to local partners to reduce the threat of habitat loss and fragmentation and adapt to climate change;
- 2) Assist local municipalities with recognizing their biodiversity resources and developing conservation plans and strategies;
- 3) Continue to train local leaders to recognize and map ecologically significant habitats and communicate their importance to the community;

- 4) Provide science-based trainings, roundtables and other educational and networking opportunities to key decision-makers, including local leaders, land-use planners, landowners, and managers; and
- 5) Through state grant programs, continue to raise the capacity of municipalities, land trusts, and non-profits to identify and assess watershed biodiversity, promote stewardship and conservation of vital habitats and create local conservation programs that maintain the valuable services provided by the Hudson River estuary watershed.

The overall goal of the Biodiversity Outreach Program is to raise the capacity of local partners to conserve important habitats. The program strategy is to create “biodiversity literacy” among land-use planners, decision-makers, and citizens in the Hudson Valley so they understand the role of biodiversity in maintaining healthy ecosystems, and use biological information for decision-making and planning.

PROGRAM EVALUATION

Program evaluation is a process used to assess the needs, methods, outcomes, and/or efficiency of a program (Posavac and Carey 1997). The evaluation process entails deciding on a set of criteria used to assess the program, gathering relevant information, applying this information to the criteria for assessment, and making recommendations (Worthen *et al.* 1997). Evaluations can include determining strengths, weaknesses, and challenges to improve programs (Posavac and Carey 1997). Evaluation research can also provide information on program effectiveness, particularly what parts of a program are contributing to or impeding its efficacy (Posavac and Carey 1997, Ferraro and Pattanayak 2006). The following report will explain the process of creating an evaluation framework as it applies to the Biodiversity Outreach Program, how the program evaluation was implemented, the results of the program evaluation, and recommendations for the future of the program as well as maintaining long-term program evaluation and adaptation. This research project involved both formative evaluation (feedback for program modifications) and summative evaluation (review of long-term progress on major program goals and objectives).

The primary methods used in this evaluation research included: 1) a literature review and synthesis, 2) interviews with key Estuary Program staff and partners, 3) preliminary review and assessment of existing evaluation materials, 4) survey of past program participants and non-participants using the evaluation framework, and 5) final analysis and review to inform a long-term program evaluation. Based on the objectives of the Biodiversity Outreach Program, we were able to focus the literature review on the key factors influencing the effectiveness of the program and policy outcomes. These factors were then compiled into indicators (see *Indicators* section below), informed by the literature review and the interviews of key Biodiversity Outreach Program stakeholders (see *Interviews* section below), and were the foundation for the survey instrument (see *Surveys* section below).

Figure 1 lays out the full program evaluation process from the initial planning phase, to implementation of the program, to evaluation of the program, and how each of these phases

cycles back through the process (Jacobson 1998). The common steps in program evaluation include: 1) Planning: program activities are designed based on identification of program needs, goals and objectives, and identification of resources; 2) Process: implementation of the program activities; and 3) Product: evaluation of the activities followed by recommended changes, with subsequent program planning. This involves the re-evaluation of resources or goals and operational decisions. The first step of program evaluation is to clearly define the goals, targets, and objectives of the program (Jacobson 1998, Heimlich 2001, Bengston *et al.* 2004, Carleton-Hug and Hug 2010, Heimlich 2010). The program goals, targets, and objectives should be specific and focus on what can realistically be measured (Heimlich 2001).

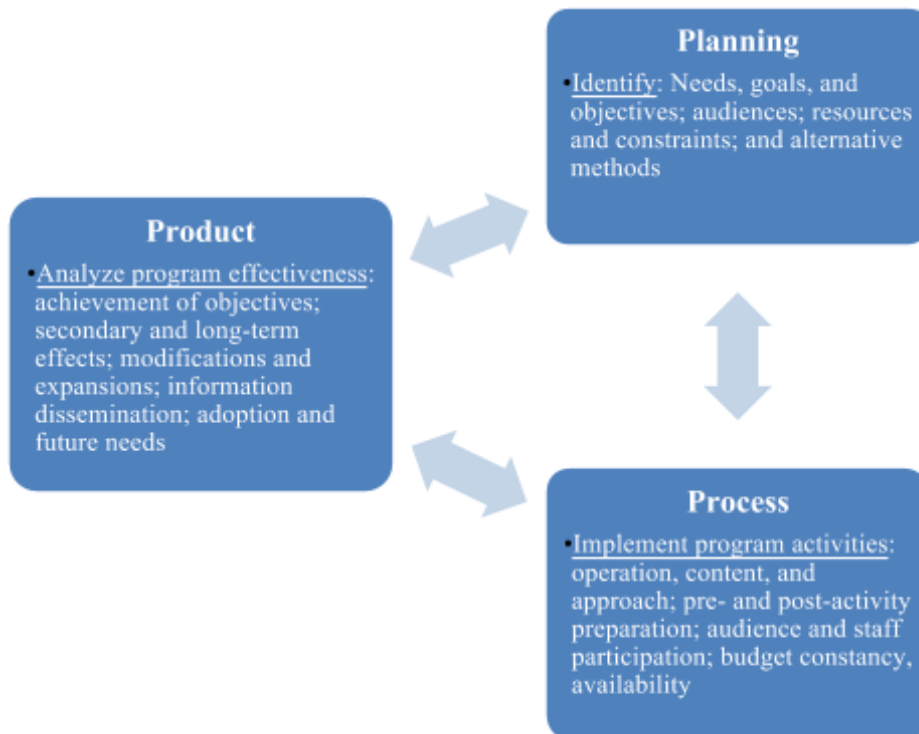


Figure 1. Diagram of the Planning-Process-Product evaluation model (adapted from Jacobson 1998).

Identifying available resources follows the identification of program goals, targets, and objectives. Here, ‘resources’ refer to invested resources such as time, personnel, and money (Posavac and Carey 1997), as well as the availability of data/measures with which to evaluate the program (Press 1998). Additionally, bridging and bonding social capital, which comprise elements of trust, networks, and norms, are resources that can be drawn upon programmatically (Lin 1999). Available resources will guide the scope and methods of the evaluation, such as what kinds of indicators can be used, or whether qualitative or quantitative data will best

measure the concepts. Once the goals, targets, objectives, and resources have been identified, an analytic framework following the scientific method should be developed (Ferraro and Pattanayak 2006). The choice of a framework depends on the needs of the evaluation (Rog 1994). Once the results of the program evaluation have been gathered and interpreted, program recommendations may be made. It is crucial that the recommendations are “data-driven” in that they flow from the evaluation protocols described above. If the recommendations are implemented, they should be monitored and adapted as needed (Jenks, Vaughan, and Butler 2010).

Training Program Evaluation

Education is knowledge based in theory and principles – the “why’s” of particular skills or topics – whereas training is the application of knowledge or skills – the “how-to’s” (Walton 1988, Berg 1994). Often, these two are not mutually exclusive (education and training). There are four criteria for evaluation of training programs: reactions, learning, transfer/behavior, and results (Kirkpatrick 1960; Alliger et al. 1997).

Training reactions can focus on the affective, which is the participant’s enjoyment or satisfaction (or lack thereof). Reactions can also center on how the participant perceives the usefulness of the training in their work. Such utility reactions appear to be better predictors of “on-the-job behavior” than are affective reactions regarding training satisfaction (Alliger *et al.* 1997). The second criterion, learning, is comprised of three categories reflecting the process by which knowledge is retained over time, and/or eventually put to use: immediate post-training knowledge, knowledge retention (measured at some point after training), and behavior/skill demonstration (“can do” indicators) (Alliger *et al.* 1997).

The third criterion, transfer of training, is a measure of whether the acquired skill or information is used on-the-job (Alliger *et al.* 1997). The transfer of training is complex and plays an important role in our training evaluation because it relates to the longer-term impacts of the training, such as whether the topics are being incorporated in local land-use plans. Blume *et al.* (2010) performed a meta-analysis of the transfer literature and further defined transfer in two terms: *transfer generalization* – “the extent to which the knowledge and skill acquired in a learning setting are applied to different settings, people, and/or situations from those trained” (p.1067) – and *transfer maintenance* – “the extent to which changes that result from a learning experience persist over time” (p.1068). Several key inputs relate to transfer: trainee characteristics, training design, and work environment (Baldwin and Ford 1988). *Trainee characteristics* include motivation to participate in the training; training expectations (what the trainee expects to receive as a result); initial skill, knowledge, and abilities; learning ability and style; personality; life experiences that may act as filters through which the training is perceived; and potential degree of burnout over time (Curry *et al.* 1994). *Training design* refers to the training objectives, training method, training materials, and the kind/duration of skills-practice during training (Baldwin and Ford 1988, Blume *et al.* 2010). *Transfer climate (work environment)* focuses on situational cues – “manager goals, peer support, equipment availability, and opportunity to practice trained skills” – and consequence cues – “punishment, as well as positive and negative feedback from both managers and peers when trainees attempt to apply the skills they learned in training” (Blume *et al.* 2010, p.1068, adapted from Rouillier and Goldstein 1993).

Results are the measurable outcomes of the training beyond the skill acquisition, use, and transfer by the trainees, for example, productivity gains, employee morale, or profitability (Alliger *et al.* 1997). “They [the results] are at once the most distal from training, and often perceived as the most fundamental to judging training success” (Alliger *et al.* 1997, p.346). However, results criteria tend to be difficult to measure – it is difficult to imply causality between the training and results – and some training programs cannot produce measurable results, especially when evaluating trainings in an organizational, not experimental, setting (Tannenbaum and Woods 1992, Alliger *et al.* 1997).

A tacit assumption exists that trainings will change the behavior(s) of the learner – as in “if they understand this, then they will change their behaviors” (Heimlich 2010, p.183). This assumption is often false as the process of changing behaviors is complex and there are many factors that may lead to behavioral change. Rather, education can foster “action competence,” where learners are taught to think critically about a problem and act to solve it (Jensen and Schnack 1997).

Social and Policy Capacity as Program Outcomes

Social capacity is a measure of people’s ability to work together for a common purpose, as individuals, groups, or organizations (Lichterman 2009, Smith and Kulynych 2002). The primary features of social capacity are reflexivity, cooperation, inclusiveness, openness, and equity (Lichterman 2009, Smith and Kulynych 2002). As an example of building of social capacity, Stedman *et al.* (2009) describe how the work of community watershed organizations in Pennsylvania produces measurable changes such as recognition and trust of the group throughout the broader community, inter-group collaboration and skill sharing, and local influence. Beckley *et al.* (2002) consider these outcomes as “process indicators” of capacity, in that they do go beyond the program itself and are transferable across a wide variety of phenomena.

Keen *et al.* (2006) found that communities of practice can be a means to encourage voluntary collaboration and reach sustainability goals. Keen and her colleagues (2006) researched whether communities of practice, made up of local government personnel, could assist in encouraging sustainability assessments at an organizational level. The community of practice used “a more systemic approach to sustainability assessment across council departments... [and] critically examining thinking about ways in which the council could improve its sustainability performance” (p.207). They were able to integrate sustainability assessment into all aspects of the planning and decision-making cycle. This paper offers a snapshot of progress of an ongoing project and identified some challenges, such as maintaining momentum and political pressures.

Policy capacity, as defined by Polidano (1999), is “the ability to structure the decision-making process, coordinate it through government, feed informed analysis into it, and ensure that the analysis is taken seriously” (p.14). Davis (2000, p.231), on the other hand, defines policy capacity as “the ability of governments to decide and implement preferred courses of action, which makes a difference to society and its economy;” here, there is an emphasis on an outcome. Press (1998, p.29) defines policy capacity as “a community’s ability to define and respond to problems,” and environmental policy capacity as “a community’s ability to engage in collective

action that secures environmental public goods and services. Environmental policy capacity is affected by community involvement and trust, political leadership, economic resources, administrative resources, and environmental attitudes and engagement (Press 1998).

Having an involved community can positively affect biodiversity conservation outcomes. For example, in Seattle, half of land-use planning directors surveyed in an earlier study (Miller et al. 2009) said that the community's values were "the single most important factor" that led them to include biodiversity conservation measures in their comprehensive plans (Stokes et al., 2011). However, the authors found that community values were the most important driver only in high-performing jurisdictions; mandates were most important in lower-performing jurisdictions. Almost all of the respondents cited collaboration between and among jurisdictions as being important for biodiversity conservation, as well as a need for an increase in public outreach and communication ("... a majority of planners thought that community outreach and education was the most effective way to bring more conservation into local planning") (p.456), and increased funding to be able to perform more/better conservation actions.

To build policy capacity around integrating biodiversity and conservation planning with land-use decision-making in South Africa, Pierce and her colleagues (2005) created a comprehensive outreach and technical assistance program. Tools included conservation priority maps and guidelines, a handbook and training that covered the interconnectedness of biodiversity, sustainability, land reform, and environmental legislation (Pierce *et al.* 2005). Informal inquiries immediately following the trainings showed that municipalities and/or consultants were using the handbooks and that one of the region's environmental agencies required that all environmental impact assessments use the handbook's guidelines. However, a few years later, almost no one was implementing the guidelines, despite the presence of motivated trainees who were expected to keep the projects moving. This is believed to have occurred due to the high employee turnover rate in local municipalities and a lack of supportive leadership (Knight *et al.* 2011). While successes, such as collaborative development of the implementation strategy, delivery of trainings and use of planning tools were achieved, the authors cited the need for multi-disciplinary team members and engaged stakeholders, a comprehensive social context assessment, and sharing of conservation opportunities and actions (rather than identifying priorities only) as among the lessons learned. We can also see that there might have been a need for sustained training, technical assistance, and follow-up.

Indicators

When assessing whether a policy or program is effective, the correct measurement is essential (Heimlich 2001). The measurement, or a proxy for the measurement, ought to be matched to the program goals and objectives (Heimlich 2001, CMP 2007). An indicator delivers measurable information about what it is we want to know (Farrel and Hart 1998). Indicators quantify and simplify information based on available, valid, and reliable data (Hammond *et al.* 1995) and should be determined based on validity (relationship to the underlying construct they purportedly reflect), measurability, consistency, and sensitivity to change (CMP 2007).

There are three general categories of indicators: pressure, state, and response (Hammond *et al.* 1995). Pressure indicators measure what is happening and tend to be directly measurable, such

as the amount of pollution in a river. Pressure indicators can be precursors to state indicators and can prompt earlier action (Mace and Baillie 2007). State indicators measure the state of something, for example endangered species lists or the extent of forested acres. State indicators may be more difficult to interpret because of the complexity of policies and ecosystems. Response indicators measure development towards policy or action implementation to reduce a pressure or restore a state. They are useful in following the progress of response implementation, such as tracking how much money or personnel are allocated to a response project (Hammond *et al.* 1995, Mace and Baillie 2007). Indicators may be measured using different methodologies such as interviews, surveys and questionnaires, GIS data, census data, and environmental reports (Carleton-Hug and Hug 2010).

Evaluation Framework for the HREP Biodiversity Outreach Program

Table 1 is a list of potential indicators for the HREP Biodiversity Outreach Program that have been compiled from the literature and determined to be relevant by HREP and HDRU project staff. For the evaluation of the Biodiversity Outreach Program, the information gleaned from the stakeholder interviews and the literature review guided the development of three primary focal areas:

1. Biodiversity Outreach and Technical Assistance Indicators: evaluate the outcomes and application of the outreach activities – trainings, presentations, roundtables, and technical assistance – provided through the Biodiversity Outreach program.
2. Biodiversity Policy Capacity Indicators: these data focus on the decision-making capacity of the outreach participants’ land-use related board/commission/committee and municipality to evaluate whether there is the ability or opportunity for a participant to apply what they learned to programs and policy. These are self-reported board/commission/committee and municipal and community characteristics.
3. Biodiversity Protection Policies and Program Indicators: evaluate whether the outreach is impacting biodiversity programs and policy. Data for these indicators are primarily measured at the municipality level and would come from secondary data.

Table 1. Potential evaluation indicators for HREP Biodiversity Outreach Program.

FOCAL AREA	INDICATOR	SOURCE
BIODIVERSITY OUTREACH AND TECHNICAL ASSISTANCE		
Training	Trainee motivations, characteristics	Baldwin and Ford 1988, Curry et al. 1994
	Reactions to training - utility and affective	Alliger et al. 1997
	Learning	Alliger et al. 1997
	Knowledge retention	Alliger et al. 1997
	Increased use of habitat maps and data	Blume et al. 2010
	Increased use of assessments (valuable habitat, etc.) by trainees for decision-making process	Blume et al. 2010
	Number of conservation-related policies/agreements coming out of trainee offices	Koontz and Thomas 2006
	Number of biodiversity-harming (such as development) proposals denied/edited in trainee offices	Koontz and Thomas 2006
	Barriers and incentives to utilizing the training? Manager support (y/n), peer support (y/n), incentives (training outcomes included in job performance plan, etc.), employee turn-over rate? [Barriers apply to sections below as well]	Blume et al. 2010
Technical support and data sharing	Increased use of GIS by trainees for decision-making process	Blume et al. 2010
	Increased use of habitat maps and data	Blume et al. 2010
Grant-giving	How many grants given out? How many programs/projects have they supported? Were these programs/projects successful?	Blume et al. 2010

(cont.) BIODIVERSITY POLICY CAPACITY		
	Professionalism, organizational structure, and size of administering agencies; monitoring and enforcement personnel	Wellstead and Stedman 2010, Press 1998
	Number of county, city, special district professional or personal staff	Wellstead and Stedman 2010, Press 1998
	Elected/appointed posts ratio	Press 1998
	Collaboration between jurisdictions	Wellstead and Stedman 2010, Stokes et al. 2010
Social capital	Social trust (group specific or generalized; bridging versus non-bridging)	Beckley et al. 2002, Press 1998
	Survey results (opinion polls), including tests of priorities among competing environmental values or issues	Wellstead and Stedman 2010, Press 1998
	Perceptions of changes in environmental quality	Koontz and Thomas 2006
	Environmental education (funding, extent)	Press 1998, Koontz and Thomas 2006
	Awareness of environmental issues, including perceptions of localized environmental problems	Wellstead and Stedman 2010, Press 1998
BIODIVERSITY PROTECTION POLICIES AND PROGRAMS		
Zoning and land use	Changes to, adoption of, or implementation/enforcement of land-use plans	Stokes 2010, Miller 2009
	Changes to, adoption of, or implementation/enforcement of land-use policies such as zoning	Stokes 2010, Miller 2009
	Changes to, adoption of, or implementation/enforcement of land-use planning procedures	Stokes 2010, Miller 2009

EVALUATION QUESTIONS

1. What are the characteristics of HREP Biodiversity Outreach program participation in terms of participant motivation, program usefulness, repeat participation, amount of time dedicated, biodiversity awareness gained, and peer communication?
2. How are HREP Biodiversity Outreach participants applying what they learned in the HREP Biodiversity Outreach and Technical Assistance program to land-use planning, and what are the specific outcomes for municipal plans, municipal procedures, and municipal policies?
3. What HREP Biodiversity Outreach programs are most influential in achieving land-use planning outcomes for biodiversity?
4. What are the barriers to participants applying what they learned in the HREP Biodiversity Outreach program to achieve land-use planning outcomes for biodiversity?
5. How do HREP Biodiversity Outreach program participants perceive municipal capacity in the municipalities represented?
6. How do HREP Biodiversity Outreach program participants compare to non-participants?

INTERVIEW AND SURVEY METHODOLOGY

Interviews with Key HREP Stakeholders

Interviews of key Biodiversity Outreach Program stakeholders (n=5) were conducted to help inform the program evaluation process and focal areas. The interview questions included:

1. What are the Biodiversity Outreach Program activity outcomes?
2. Who are the participants of the Biodiversity Outreach Program and is the program meeting their needs?
3. What are the participants learning in the Biodiversity Outreach Program activities?
4. What are participants doing differently as a result of participating in the program?
5. How effective is the Biodiversity Outreach Program in affecting changes in decision-making and policy?
6. What are the strengths and weaknesses of the Biodiversity Outreach Program in terms of internal program function (e.g., staffing, funding, communication)?
7. What are the strengths and weaknesses of the Biodiversity Outreach Program in terms of external program factors (e.g., political factors, socio-economic factors)?
8. Is the Biodiversity Outreach Program meeting its goals?
9. Is the Biodiversity Outreach Program contributing to the goals of the Hudson River Estuary Program?

The Biodiversity Outreach Program staff and HDRU staff chose five key program stakeholders to interview based on their experience with the program. The interviewees represented the Hudson River Estuary Program, Hudsonia Ltd., and Cornell Dept. of Natural Resources. One-on-one interviews were conducted in person, digitally recorded, and later transcribed. Analysis of the interviews was completed by thematically coding the content and findings are detailed in the beginning of the results section.

Participant Survey

The participant survey (Appendix A) evaluated the effectiveness of the Biodiversity Outreach Program. Effectiveness was defined as reaching or making progress towards the following program goals as outlined in the “Biodiversity Outreach Program” section of this report on pages 13-14. Cornell University’s Institutional Review Board approved the survey instrument and cover letters.

The participant survey included five sections designed to gather information about the program participants and evaluate the program goals (e.g., progress towards, barriers to, etc.):

- 1) The role of the respondent in land-use or conservation planning.
- 2) What Estuary Program assistance/training the respondents have participated in, their reason(s) for participating, and how useful their participation has been in their land-use and conservation planning role (e.g., have they used the information from the program, has their participation led to changes in policies/plans/procedures). Program participation statistics were provided by Hudson River Estuary Program staff (versus relying solely on self-reporting from the survey instrument).
- 3) Respondents’ perception of their municipality’s capacity to address land-use and conservation planning issues, including determining possible barriers to addressing these issues.
- 4) The capacity of the respondents’ board/commission/committee/organization/department to implement land-use and conservation changes (in the form of changing policies/plans/procedures) as well as barriers to making these changes.
- 5) Basic socio-demographic information and general comments about the program.

Non-Participant Survey

The non-participant survey (Appendix B) contained five sections designed to gather information about the respondents, their municipalities, and why they have not participated in the Biodiversity Outreach Program. Additionally, core questions from the participant survey were used in the non-participant survey so that a comparative analysis could be conducted.

Sampling Methodology

Databases of participants from 2000-2011 from Estuary Program trainings/outreach/assistance and from trainings by partner organization, Hudsonia, were compiled and combined by K. Strong

and L. Heady into one database of approximately 700 individuals. The database was then edited so that the final list of individuals (n=592) consisted of those with valid and unique email addresses. Those individuals who did not have an email address listed, whose email address did not work, or who had a shared email address were removed from the sample database. The database contains each individual's name, contact information, municipal information, Estuary Program and/or Hudsonia programs attended, year of most recent program participation, and total number of program hours.

To identify non-participants for the survey, we developed a list of Conservation Advisory Council members, planning board chairs, and municipal planning staff for the municipalities that had not participated in a Biodiversity Outreach Program training/event from 2000-2011. The final database included only individuals for whom we could find an email address (n=109).

Survey Implementation

Cornell University's Survey Research Institute conducted the web survey in January 2013. The surveys and cover letters were sent to individuals from the participant and non-participant sample lists via email. Four weekly reminders were sent to individuals who had not yet completed the survey. The surveys remained open for approximately seven weeks. Of the 592 program participants in the survey sample, 547 surveys were emailed (45 email addresses did not work). In total, 206 participants completed the survey; additionally, 47 participants started the survey, answered at least one question, but did not complete it. These partially completed cases are also included as part of the final dataset (n=253), yielding a total response rate of 46%. Of the 109 program non-participants in the survey sample, 104 surveys were emailed (5 email addresses did not work). The non-participant survey had a 30% response rate (n=31).

A survey of non-respondents to the participant (n=66, 30% response rate) and non-participant surveys (n=26, 45% response rate) was also conducted. Details of the non-respondent survey are presented in Appendix C).

Survey Analysis

Analysis was conducted using SPSS Version 22. Frequencies, means, and standard deviations were calculated for each item (see Appendices A and B). Additional statistical analyses (e.g., ANOVAs, factor analyses, correlations) were completed for both the participant and non-participant surveys. Due to the small sample size and number of respondents to non-participant survey (n=31), statistical analyses comparing the participants and non-participants were not conducted.

RESULTS

Interviews of Biodiversity Outreach Program Stakeholders

When asked about what Biodiversity Outreach Program participants were expected to learn, gain and/or accomplish, stakeholders cited the following: increased awareness around biodiversity issues/biological resources and the services they provide; access to science and technical tools (such as GIS) for conservation; and adoption of new ordinances, master plans and zoning by town/planning boards, conservation commissioners, etc. Evidence of these accomplishments is found in “*positive feedback from stakeholders*” and the fact that “*we see more action that we believe comes from our program.*”

When asked about the specific audiences the program serves, stakeholders identified municipal Planning Board and Conservation Advisory Council members, land trusts, private landowners, and environmental/conservation groups. Beneficiaries were identified as the residents of the Hudson Valley, landowners concerned about protecting their land and implementing management plans, and New York State: “[*The Biodiversity Outreach Program is*] *doing something innovative... and other agencies are looking at what we’re doing.*”

Key strengths of the program included strong communication skills of staff members, good working relationships between colleagues and other programs, and the program’s momentum and longevity. Weaknesses focused on uncertainty of funding and lack of job security, as well as the challenges of running a program with two different organizations, such as program identity.

According to stakeholders, the types of activities or characteristics that contributed most to the goals of the program were: 1) Outreach style (working with communities and research on understanding community values); 2) Outreach tools (trainings/courses, workshops and presentations, and providing assistance in making habitat maps/summaries and guidance on their use); and 3) Staff’s professional development (attending conferences and professional meetings).

To respond to changing needs of the program, the program adapts its content/curricula “*based on evaluations and conversations with participants.*” Asked whether the program is meeting participants’ needs, one stakeholder wrote, “*the audience seems hungry for the information and there can be waitlists for some trainings.*” Others anticipate learning more from the survey results, and from participant and non-participant views (“*we don’t talk with non-participants, so there is still a big unknown*”). Perspectives shared in these interviews were incorporated into the design of the survey tools.

Survey of HREP Biodiversity Outreach Program Participants

The respondents represent 73 different municipalities within the Hudson River Valley. Half of the survey respondents were male; overall, the respondents tended to be older (almost 60% was 55-74 years of age). In general, the respondents were highly educated: 60% hold graduate or professional degrees, 30% hold bachelor’s degrees, and only 10% lacked a college degree. These findings are consistent with data showing that residents serving on planning and other

citizen advisory boards/committees tend to be older adults with professional backgrounds and may not represent the socio-economic and cultural diversity of their respective communities (Dougherty and Easton 2011; Anderson and Eastman 2014).

Length of Time and Participant Role in Land-Use and Conservation Planning

Of all the survey respondents, one-third (34%) have 5-9 years of experience in land-use or conservation planning, one-quarter (26%) have 10-20 years, one-fifth (22%) have 1-4 years, and 16% have more than 20 years of experience. Most respondents (81%) have served on, or are currently serving on, a municipal board, commission, or committee (BCC). About half are currently serving as a Conservation Advisory Council/Environmental Commission member (43%) and one-third are Planning Board Members (31%). In Table 2 below, some respondents reported multiple roles.

Table 2. Have you ever served or are you currently on a municipal board, commission, or committee? (n=205)

Role	Percentage
Conservation Advisory Council/Environmental Commission	43%
Planning Board	31%
Comprehensive/Master Plan Committee	17%
Open Space Committee	15%
Town Board, Village Board or City Council	7%
Zoning Board of Appeals	3%
None of the above	17%
Other municipal board, commission or committee	22%

Twenty-two percent provided a written response to the ‘other’ category, referencing environment-related committees, councils or boards (environmental management council, trails committee, Albany Pine Bush Commission); zoning review/update committees; and agriculture boards or committees (ag and farmland protection board, tree and agriculture committee).

Almost half have never served as chair (48%), while 35% have served as chair in the past and 21% are currently serving as chair. Of the respondents who have never served on a municipal BCC (19%), the largest percentages were board/staff/volunteer members of conservation organizations or land trusts. Those responding in the “other” category included municipal staff; interested citizens; watershed group board, staff, or volunteers; or consultants.

Past and Current Land-Use Planning Positions

We examined respondents’ past role relative to their current role for those that serve on planning boards, conservation commissions, and other municipal committees. These results provide some insights into the progression of respondents in terms of their past and current position (Table 3) (some respondents may serve on committees or boards concurrently). Due to the low number of respondents who served on Zoning Boards of Appeals (n=7), we do not report those results below.

For some positions, we see little change between past and current roles. For example, for those that served on the Planning Board in the past, 79% of them continue to serve in this role, versus 70% for Conservation Advisory Council (CAC), 69% for Open Space Committee, 67% for town or village board or city council, and 47% for Comprehensive Plan Committee.

There are some progressions between past and current positions, and concurrent positions that show prominent trends (while noting that some committees, such as Comprehensive Plan and Open Space committees, tend to be temporary in nature). There are certain positions that respondents reported holding concurrently. For example, 20% (n=18) of those currently serving on CAC's reported serving on Open Space Committees at the same time. Of the 63 respondents that currently serve on Planning Boards, 25% of them concurrently serve on their Comprehensive Plan Committee. Of those serving on a Comprehensive Plan Committee, 44% also serve on a CAC or Open Space Committee (26%). For transitions between positions over time, results show that a high percentage of respondents that served on an Open Space Committee in the past currently serve on Conservation Advisory Councils (63%). Further 38% of those that served on a Comprehensive Plan Committee in the past currently serve on the Planning Board. Twenty-nine percent of those serving on a Comprehensive Plan Committee in the past currently serve on Conservation Advisory Councils. Twenty-three percent of those that served on an Open Space Committee in the past currently serve on a Comprehensive Plan Committee; likewise, twenty-percent of those that served on a Planning Board in the past currently serve on Conservation Advisory Councils. Thus it seems that there are pathways between certain positions, particularly between Comprehensive Plan Committees, Open Space Committees, and the positions as noted above and in the table below. **These findings suggest that residents who serve on temporary committees may then transition to longer-term governing bodies such as Conservation Advisory Councils and planning boards, drawing on their past experiences and establishing continuity to benefit future efforts.**

Table 3. Cross-tabulation between past and current positions in land-use planning.

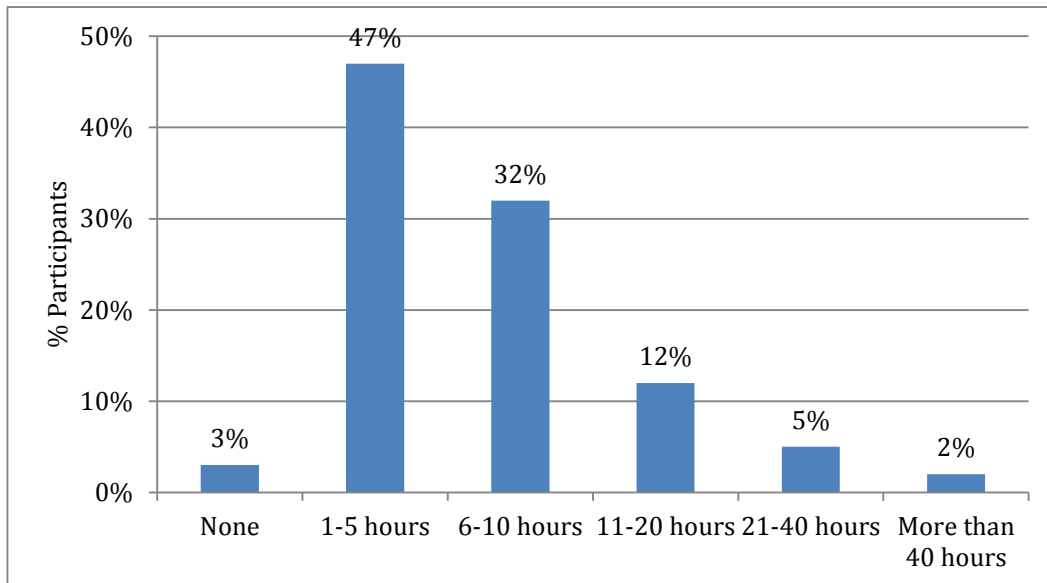
	<i>% (n) of Those Holding Position in Past</i>				
<i>Current Position</i>	Town/Village Board or City Council	Planning Board	Cons. Advisory Council	Open Space Comm.	Comp. Plan Comm.
Town/Village Board or City Council	67% (12)*	9% (5)	6% (6)	6% (2)	7% (3)
Planning Board	17% (3)	79% (44)*	20% (21)*	11% (4)*	38% (21)
Conservation Advisory Council	17% (3)*	20% (56)*	70% (73)*	63% (22)*	29% (16)*
Open Space Committee	17% (3)	5% (3)*	19% (105)	69% (24)*	20% (11)
Comp. Plan Committee	17% (3)	20% (11)	13% (14)	23% (8)	47% (26)

*significant difference between past and current position at $p < .05$ level (chi-square test)

Time Spent in Land-Use Planning Role

Figure 2 illustrates how much time per month program participants who serve on BCCs spend in their role in land-use and conservation planning. Almost half of respondents (47%) spent 1 to 5 hours per month in their BCC membership role, while one-third (32%) spent 6 to 10 hours per month.

Figure 2. Hours per month spent by BCC members in land-use or conservation planning (including time spent in preparation, site visits, meetings, etc.) (n=155)



Different responsibilities require different time commitments (noting that elected officials address multiple issues, not limited only to land-use planning). Table 4 shows the breakdown of time spent on land-use planning by specific BCC role. Respondents spent slightly more hours in positions on Planning Boards, Conservation Advisory Councils, and Comprehensive Plan Committees. Few respondents reported spending no time on their land-use planning position monthly, except for a small number that currently serve on a Planning Board or Conservation Advisory Council. Few respondents spent more than ten hours per month in their land-use planning position.

However, there were a few exceptions in terms of positions that require a greater time commitment. For example, 16% of those on Planning Boards spent 11-20 hours per month and 7% spent 21-40 hours. For those on Comprehensive Plan Committees, 12% served 11-20 hours per month and 12% served 21-40 hours. For respondents serving on Conservation Advisory Councils, 13% spent 11-20 hours per month, 3% spent 21-40 hours, and 1% spent 40+ hours. A tenth of those serving on Town or Village Boards or City Councils spent 11-20 hours per month while 8% of those on Open Space Committees did so.

Table 4. Time spent on land-use planning, monthly, by position.

<i>Current Position</i>	<i>% (n) Hours Spent Per Month in Land-Use Planning Position</i>					
	None (0)	1-5 hours	6-10 hours	11-20 hours	21-40 hours	40+ hours
Town/Village Board or City Council	0% (0)	60% (6)	30% (3)	10% (1)	0% (0)	0% (0)
Planning Board	4% (5)	36% (20)	36% (20)	16% (9)	7% (4)	0% (0)
Conservation Advisory Council	3% (2)	46% (32)	34% (24)	13% (9)	3% (2)	1% (1)
Open Space Committee	0% (0)	50% (12)	33% (8)	8% (2)	4% (1)	4% (1)
Comp. Plan Committee	0% (0)	38% (10)	38% (10)	12% (3)	12% (3)	0% (0)

We also examined ten land-use planning tasks and asked respondents to report how often they worked on them in their current position (Appendix F). Below is a summary, using mean frequency of land-use planning tasks by position on a rating scale of 1= never, 2=every few years, 3=yearly, and 4=monthly (Table 5). Across all land-use planning positions, site plan reviews, subdivision reviews, environmental reviews, and natural resources laws/ordinance work were done most frequently. Planning Boards tended to review *site plans* several times per year, while Conservation Advisory Councils, Open Space Committees and Comprehensive Plan Committees reviewed them annually. Planning Boards conducted *subdivision reviews* several times per year, while Conservation Advisory Councils did so annually. Town/Village Boards or City Councils, Open Space Committees and Comprehensive Plan Committees reviewed them about every two years (yearly to every few years). Planning Boards conducted *environmental reviews* several times per year, while Town/Village Boards or City Councils, Conservation Advisory Councils, and Open Space and Comprehensive Plan Committees were likely to conduct them every year to every few years. For *natural resources laws or ordinances*, all reviewed them about every two years. Tasks that were completed least frequently were comprehensive plan development or implementation, habitat mapping and public information campaigns. On average, the identified boards worked on these tasks every few years.

Table 5. Mean frequency of land-use planning tasks

Current Position	Zoning amendments	Comprehensive plan development or implementation	Open space plan development and update	Site plan review	Sub-division review	Natural resources laws or ordinances	Environmental review	On-site habitat assessment	Habitat mapping	Public information campaign
Town/Village Board or City Council	2.53	1.67	2.03	3.12	2.65	2.53	2.91	2.16	1.90	2.28
Planning Board	2.46	2.32	1.99	3.81	3.84	2.38	3.69	2.9	2.07	1.73
Conservation Advisory Council	1.97	2.11	2.30	3.26	2.94	2.40	2.82	2.70	2.32	2.46
Open Space Committee	1.92	1.96	2.87	2.89	2.59	2.38	2.70	2.67	2.40	2.04
Comprehensive Plan Committee	2.08	2.52	2.43	3.24	3.11	2.48	3.00	2.29	2.16	1.95

Legend: 1 - never; 2 - every few years; 3 - yearly; 4 - monthly

Environmental Attitudes

Respondents were asked about their attitudes on the relationship of natural areas to environmental quality and quality of life. These responses allowed us to better understand the context in which participants view environmental issues and the importance they place on land-use protection and action. In general, messages about the topics referenced in Table 6 below resonated with respondents: the majority agreed or strongly agreed that natural areas are important for maintaining ecological services, such as clean air and clean water, as well as agreeing that natural areas provide habitat and recreation. Very few respondents – about 2% – strongly disagreed with each of the statements.

Table 6. Assessment of Environmental Attitudes: “To what extent do you agree with the following statements?”

Environmental Attitude	% Strongly Agree	Mean Agreement*	N
Natural areas provide important habitat for plants and animals	78%	4.79	247
I have a personal responsibility to leave the earth in good condition	84%	4.76	245
Natural areas are important for clean air	85%	4.76	245
Natural areas are important for clean water	85%	4.76	246
Natural areas provide scenery	78%	4.70	245
Natural areas provide recreation opportunities	78%	4.68	247
Natural areas help communities adapt to climate change	69%	4.49	244
New medicines may be derived from plants and animals	52%	4.32	244

*1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree

Program Participation Details

Survey respondents were asked which Biodiversity Outreach Program trainings and assistance they received between 2000 (when the program began) and 2012 and how useful the trainings or assistance had been to them in their work (Table 7). Of those that were able to recall the specific training(s) they attended (78%), 25% attended only one training, 17% attending two trainings, 17% attended three trainings, 7% attended four trainings, and 13% attended five or more trainings. **The majority of respondents found the trainings attended and/or assistance received to be useful or very useful.**

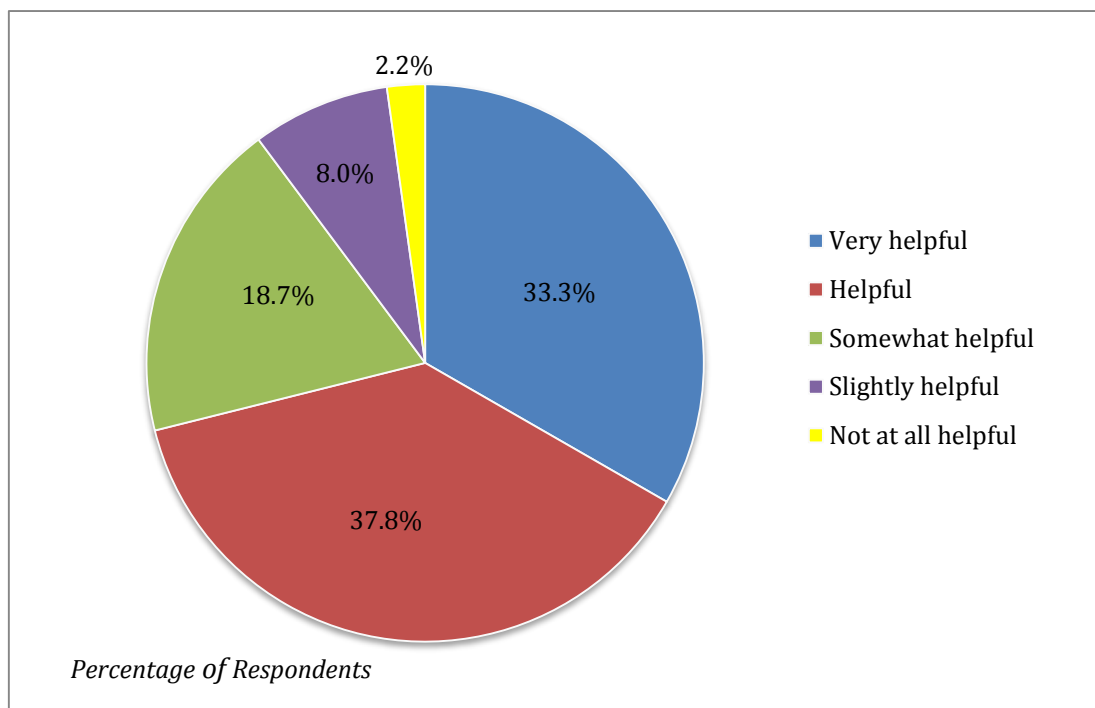
Table 7. How useful was the training or assistance you received to your work, sorted by mean usefulness.

Training attended / Assistance received	N	% Participated	Mean Usefulness*
Received an Estuary Grant	46	14%	4.72
Requested technical assistance (e.g., plan feedback)	52	15%	4.65
Biodiversity Assessment Short Course (Hudsonia, 3-day)	88	29%	4.63
Requested GIS data or assistance	34	11%	4.59
Biodiversity Assessment Training (Hudsonia, 10-month)	88	25%	4.47
Attended a presentation by Estuary Program/Hudsonia	141	41%	4.46
Requested a habitat summary	23	8%	4.39
Biodiversity Assessment Workshop (Hudsonia, 1-day)	57	17%	4.39
Biodiversity Conservation Roundtable	92	30%	4.27
Planning for Nature in Your Community workshop	49	13%	3.92
GIS Training (Cornell, 2-day)	41	12%	3.90

**1= not at all useful, 2= slightly useful, 3= moderately useful, 4= useful, 5= very useful*

Respondents also reported the extent to which their participation in the Estuary Program had helped them in their position in the community (Figure 3). More than two-thirds (71%) of respondents indicated that the program had been helpful or very helpful.

Figure 3. How much has your participation in the program helped you in your position in the community? (n=225)



We also wanted to understand respondents’ motivations for participating in the Biodiversity Outreach Program (Table 8). Participation was largely based on wanting to improve capacity in land-use and conservation planning, as well as personal interest. It was brought to our attention that in 2006, a statewide annual training requirement was instituted. To see if the training requirement affected program participation after 2006, we categorized the trainings into pre- and post-2006 and ran t-tests to compare in motivations; we did not find any significant relationship.

Table 8. Program Participant Motivations

Reasons	Mean Importance*	N
I wanted to improve my capacity for land-use and conservation planning	4.51	216
I have a personal interest in this subject	4.50	214
The program was recommended to me by a peer	3.10	177
Leadership encouraged me to attend	2.08	163
I needed to fulfill my annual training requirement	1.87	170

*1=not at all important, 2=slightly important, 3=somewhat important, 4=important, 5=very important

Thirteen respondents provided further comments on their motivation to participate in the Estuary Program. Several mentioned professional interests to keep current on training topics; the opportunity to consult, network and collaborate with conservation colleagues; the potential for future project partners; and to improve skills and knowledge as a CAC member. Others mentioned specific uses of the information (interest in managing local habitats, improve science understanding, pass on knowledge gained to zoning and planning boards, etc.). One respondent wrote, “*Without this program [I] never... would have been involved in watershed issues and planning.*”

A strong majority (87%) of participants recommended the program and its offerings. Participants also shared Hudson Estuary program information they received with others. Almost two-thirds (64%) provided information or materials with members of their BCC, and nearly half shared with others within their organization (46%) and with members of other BCCs (44%) (Table 9). About one-fifth (21%) forwarded program information to *neighboring* communities (21%).

Table 9. Information sharing by program participants.

Have you shared the information or materials you received from the Biodiversity Outreach Program training(s) or technical assistance with others? (check all that apply) (n=214)	
	Percentage of respondents
With members of my board/commission/committee (BCC)	64%
With others in my organization	46%
With members of other town BCCs	44%
With professional colleagues or people outside my organization	41%
With friends or family	41%
With Town Supervisor or Mayor	34%
With neighboring communities	21%
With others	15%

Fifteen percent of respondents specified other individuals/groups with whom they shared program information. These included easement landowners and local landowner organization, land trust board, science students, police, fire and highway departments, Soil and Water Conservation District, public library, town members, and the public.

Other Trainings and Workshops about Land-Use Planning to Protect Natural Resources

Participants also drew on the offerings of *other* organizations for land-use and natural resources information. In addition to Estuary Program workshops and assistance, three-quarters (76%) of

participants identified 213 instances where they accessed education programs from other organizations (Table 10). Almost half (46%) had attended Cornell Cooperative Extension workshops, while about one-third attended County or Planning Federation workshops and Pace Land-Use Leadership Alliance (LULA) Training. One-quarter participated in County Soil and Water Conservation District workshops, and one-fifth attended Hudson River National Estuarine Research Reserve workshops. When examining participants who accessed multiple trainings from other organizations and education providers, results show that 29% attended one training, 20% attended two trainings, 15% attended three trainings, 8% attended four trainings, and 4% attended five trainings. **The findings suggest that the majority of HREP Biodiversity Outreach Program participants also took part in other educational opportunities.**

Of the 15% of participants who listed “other” workshops by name, seven mentioned Teatown’s Environmental Leaders Learning Alliance (ELLA) workshops and training programs. Other training providers listed were the Hudson River Watershed Alliance, NYS Dept. of Environmental Conservation, NYS Urban Forestry [Council] and ReLeaf, as well as NYS Department of State, American Planning Association, NY Planning Federation, and municipal association workshops.

Table 10. Other trainings and workshops that provide information about land-use decisions to protect natural resources, attended by participants (n=213)

	Percentage of Respondents
Cornell Cooperative Extension workshops	46%
County or Planning Federation workshops	39%
Pace Land-Use Leadership Alliance (LULA) Training	34%
County Soil and Water Conservation District workshops	26%
Hudson River National Estuarine Research Reserve workshops	20%
Other	15%

Skills and Knowledge Gained

As a result of taking part in the program, almost all participants agreed that they increased their knowledge of biodiversity concepts and issues (Table 11). Ninety percent of participants agreed or strongly agreed they now better understand the principles of conserving biodiversity and factors that contribute to loss of biodiversity, while 88% had a better understanding of why biodiversity is important to their municipalities or organizations. Most participants also agreed or strongly agreed that they now know where to go for information on planning for biodiversity (92%); intend to use the information received (91%); and are better able to inform and influence land-use decisions (80%). About half of participants (51%) agreed or strongly agreed that they had become better leaders. 37% of participants agreed or strongly agreed that they had improved their communication skills. **These responses provide strong evidence that the program is achieving goals related to conveying biodiversity conservation principles and their importance, biodiversity conservation in land-use planning, respondent ability to apply those principles in their work, and knowledge of biodiversity information resources and land-use practices. One area of opportunity for the Estuary Program is to provide additional training to strengthen participants’ skills in communication and leadership.**

Table 11. Respondent outcomes from participating in Estuary Program.

	(n)	Disagree/ Strongly Disagree	Neutral	Agree/ Strongly Agree
I know where to go for information on planning for biodiversity.	211	1%	7%	92%
I better understand the principles of conserving biodiversity.	212	1%	9%	91%
I intend to use the information I received.	211	1%	8%	91%
I better understand factors that contribute to loss of biodiversity.	210	1%	10%	90%
I understand why biodiversity is important to my municipality or organization.	211	1%	11%	88%
I can identify specific land-use practices to conserve or enhance habitat.	211	1%	12%	87%
I understand the role of my municipality or organization in conserving or enhancing habitat.	208	2%	14%	85%
I am more interested in the relationship between biodiversity and land-use.	210	1%	17%	82%
I am better able to inform and influence land-use decisions.	211	2%	18%	80%
I better understand the technical tools that could be used for conservation practices (such as GIS).	209	5%	20%	76%
I sought out more information on the topic(s).	205	4%	22%	74%
I was introduced to local leaders and decision-makers from other communities or organizations.	208	4%	27%	69%
I am more confident that my actions will make a difference.	210	4%	31%	66%
I became a better leader.	206	6%	43%	51%
I improved my communication skills.	204	10%	53%	37%

Lessons Learned

One hundred forty-six participants responded to an open-ended question about the most important thing they learned from taking part in the Estuary Program. Their responses were categorized and thematically coded by the research team into two primary areas of learning: 1) Knowledge and Awareness (133 learning achievements); and 2) Skills and Methods (51 learning achievements); these were further classified into sub-themes.

Under the Knowledge and Awareness area, forty-one participants reported they gained valuable knowledge on ecological concepts and conservation principles, such as habitat types, ecological processes and landscape interconnectedness. Twenty-nine participants improved their knowledge of the importance of biodiversity and its relationship to community planning: *“There are no simple solutions to protecting biodiversity, but balance between community development needs and biodiversity is essential.”* Twenty-six participants increased their awareness of the information resources available to them such as land-use planning tools and other technical assistance; one participant referenced newly gained information on the *“network of experts available to help.”*

Twenty-four participants identified their improved understanding of the planning process itself and strategies for advancing conservation interests as most important, with one participant sharing that advance preparation and coordination of efforts are key to successful community land-use planning (*“Gathering good information before attending town meetings... working with other concerned residents to inform decisions made by the town”*). Finally, thirteen participants became aware of the strength of the existing peer network in the region for conservation models, knowledge and support: *“The introduction to the people who form the wide network of human and information resources for environmental conservation... was the most important aspect of participation.”*

Forty-five participants cited skills and application of methodologies as the most important tools they gained from the trainings. About half (24 participants) referenced some aspect of the biodiversity assessment methodology, such as habitat identification, mapping methods using aerial photography, or field assessment. Seventeen participants cited applying skills to municipal and watershed planning as most important, such as *“development of our Town Wide Biodiversity Method and associative public educational programs”* and *“how to apply the principals [sic] of sound preventative measures to protect biodiversity, water (wetland, streams, & rivers), wildlife habitat, trees, & slopes during land-use negotiations.”* Seven participants referenced strengthening their communication skills in conveying science concepts and the importance of conservation to different audiences; one participant shared that he/she learned *“how to better employ certain language to educate the broader public about the importance of environmental protection and stewardship.”* Three participants indicated the use of GIS for land-use planning as the most important skill they had gained from the trainings they attended.

Informing Land-Use Procedures, Plans, and Policies

We wanted to know if program participants used what they learned to inform procedures, plans, and policies (PPPs) made by their municipal BCCs. Survey respondents were given a list of common procedures (e.g., site visits, standardized habitat protocols for project reviews), plans or inventories (e.g., comprehensive plans, habitat maps), and policies and actions (e.g., zoning update, creation of CAC) and asked to indicate whether they used Estuary Program information and resources to create, update, or make recommendations to them.

For municipal procedures, respondents were most likely to use what they learned in training to inform

project review, especially using habitat maps, along with suggesting changes to proposed projects and requesting wildlife habitat information at the beginning stage of projects brought before the board, commission, or committee on which they serve. **The majority of respondents (76%) used Estuary Program information in municipal procedures.**

Table 12. Have you used the biodiversity information, assistance, and training provided by the Estuary Program to help your municipality with any of the following municipal procedures to reduce negative impacts to habitats and natural areas?

<i>Municipal Procedures (n=223)*</i>	N	Percent %
My municipality...	96	43%
Uses publicly-available information (e.g., national wetland inventory maps, aerial photos, soil maps) to inform project review	77	35%
Is more likely to suggest changes in proposed projects	73	33%
Regularly conducts on-site visits and/or habitat assessments for proposed projects	64	29%
Uses existing habitat maps to inform project review	56	25%
Requests habitat and wildlife information at the beginning of any project review, including queries to the NY Natural Heritage Program	38	17%
Uses conservation strategies to manage parks and other municipal lands (e.g., allowing deer hunting, restoring stream buffers, changing mowing regimes for grassland-breeding birds)	30	14%
Has standardized procedures for [requesting] wildlife and habitat information from applicants (e.g., habitat assessment guidelines, standards for environmental review)		

*24% (n=53) did not use information learned in program to help with a municipal procedure

For municipal plans (Table 13), respondents most frequently used the information from biodiversity training and technical assistance to create habitat maps, comprehensive plans, open space inventories, and natural resource inventories. They were least likely to use the information from the training for regional plans or watershed plans. **Only one in four respondents did not utilize Estuary Program information in municipal plans, confirming the widespread use of such information.**

Table 13. Have you used the biodiversity information, assistance, or training provided by the Estuary Program to help your municipality create, update, or provide recommendations to any of the following municipal plans or inventories?

<i>Municipal Plans (n=228)</i>	N	Percent %
Habitat map	74	33%
Comprehensive plan	72	32%
Open space plan or inventory	58	25%
Natural resource inventory	57	25%
Watershed plan	38	17%
Other (see explanation below)	31	14%
Regional plan	11	5%

*23% (n=52) did not use information learned in program to help with a municipal plan or inventory

For municipal policies, nearly 1 in 5 respondents utilized Estuary Program information to update zoning that conserves natural areas and adopt local laws that reduce impacts on natural areas (Table 14). Respondents were least likely to use the Estuary Program information to create a new Conservation Advisory Council or Conservation Board.

Table 14. Have you used the biodiversity information, assistance, and training provided by the Estuary Program to help your municipality with any of the following municipal policies or actions?

<i>Municipal Policies (n=228)</i>	N	Percent “Yes”
Update zoning that conserves natural areas (e.g., conservation or cluster subdivisions, overlay zoning)	43	19%
Adopt a local law that reduced impacts on natural areas (e.g., wetland or watercourse law, land clearing ordinance)	39	17%
Purchase property or development rights, create a dedicated open space fund, or a voter approved open space fund	31	14%
Create a new Conservation Advisory Council or Conservation Board	18	8%

*33% (n=75) did not use information learned in program to help with a municipal policy or action

The majority of respondents are using Estuary Program information in municipal procedures, plans, and policies; the rate of use is slightly higher for municipal procedures and plans (76% each) than it is for policies (67%). Overall 79% of respondents reported using Estuary Program information in at least one municipal procedure, plan, or policy. **Only 21% of respondents did not use the Estuary Program information in any municipal procedures, plans, or policies, confirming the high rate of application of Estuary Program information.** Recall that there could be more than one respondent per municipality. We also conducted a “by municipality” analysis to determine the number of municipalities represented by participants that used what they learned to inform PPPs made by their municipal BCCs. **Of 79 municipalities represented by respondents taking any action, 37% (n=29) took action on procedures; 57% (n=45) took action on plans, and 28% (n=22) took action on policies.**

Procedures, Plans, and Policies by Training or Assistance

We found a significant difference in the relationship between the type of assistance received from the Estuary Program and the types of municipal outcomes achieved; in fact there were significantly higher outcomes for municipal plan, policy and procedure outcomes for 10 out of the 11 types of training and assistance offered. Results show that GIS data and trainings, the Biodiversity Assessment Training, Planning for Nature in Your Community workshop, habitat summary, technical assistance, Biodiversity Conservation Roundtable and Estuary Grants all were associated with significantly higher number of outcomes in *municipal plans*. Thus it seems that a wide variety of assistance and program formats, lengths, and content were effective at informing municipal plans and inventories with relevant biodiversity conservation information.

Attending the Planning for Nature in Your Community Workshop and requesting GIS data or assistance, were associated with a significantly higher number of *municipal procedure* outcomes, but only slightly more so as most means for municipal procedures adopted were between 2.0 and 3.0 (Table 15). *Municipal plans* implemented (Table 15) were significantly higher for respondents that received an Estuary grant, requested technical assistance, requested GIS data or assistance, attended the Biodiversity Assessment Short Course, attended the Biodiversity Conservation Roundtable, attending Planning for Nature in Your Community, or attended the GIS training. For *municipal policies* (Table 15), results showed that requests for habitat summaries or technical assistance, attendance at a GIS training or

presentation by the Estuary Program or Hudsonia, or receipt of an Estuary Grant were associated with significantly more policies adopted.

Table 15. Mean number of municipal plans, policies, and procedures that participants adopted using information, assistance, or training from the Estuary Program. Significant mean differences are indicated with superscript.

Training attended / Assistance received	N	Mean No. Plans Implemented	Mean No. Policies Implemented	Mean No. Procedures Implemented	Mean No. Total PPP Implemented
Planning for Nature in Your Community workshop					
YES	194	1.97*	0.733	3.14*	5.93*
NO	29	1.27	0.551	1.77	3.61
Biodiversity Assessment Training (Hudsonia, 10-month)					
YES	62	1.98*	0.677	2.34	5.00*
NO	161	1.12	0.536	1.79	3.49
Biodiversity Assessment Short Course (Hudsonia, 3-day)					
YES	71	1.27	0.658	1.96	3.94
NO	152	1.40	0.536	1.94	3.89
Biodiversity Assessment Workshop (Hudsonia, 1-day)					
YES	43	1.60	0.721	2.51^	4.83^
NO	180	1.30	0.541	1.81	3.69
Biodiversity Conservation Roundtable					
YES	73	1.97*	0.726^	2.29	4.99*
NO	150	1.07	0.503	1.78	3.39
GIS Training (Cornell, 2-day)					
YES	28	1.28*	0.555	1.89	3.76
NO	195	1.36	0.575	1.95	4.96
Attended a presentation by Estuary Program/Hudsonia					
YES	101	1.49	0.696^	2.17	4.38
NO	122	1.25	0.476	1.76	3.52
Requested a habitat summary					
YES	19	2.21*	1.21*	2.05	5.47*
NO	204	1.28	0.517	1.94	3.76
Requested GIS data or assistance					
YES	27	2.44*	0.851^	2.85*	6.15*
NO	196	1.21	0.537	1.82	3.60

Requested technical assistance (e.g., plan feedback)					
YES	39	2.16*	0.898*	2.31	5.36*
NO	184	1.20	0.508	1.87	3.60
Received Estuary Grant					
YES	35	2.11*	0.829^	1.94	4.89
NO	188	1.22	0.529	1.95	3.73

*p<.05

^p<.07

Municipal Actions Informed by Training or Assistance per Board, Commission, or Committee

Table 16 lists the mean number of municipal PPPs that were informed by Estuary Program resources and assistance. The range numbers indicate how many PPPs were listed and could be checked by the respondent. The positions with the highest means for *procedures* were Planning Boards, Town Board, and Open Space Committees. The highest means for *municipal plans* were Open Space Committees and the mean for *policies* was near 1.0 for nearly all the positions. These findings are consistent with the fact that among the three actions, changes to procedures are most likely to be implemented (followed by plans and then policies), as they may require less public review and take less time and resources to put into place.

Table 16. Mean numbers of municipal actions taken that were informed by the program trainings and/or assistance per municipal board, commission, or committee. Have you used the biodiversity information, assistance, and training to help your municipality with any of the following procedures, plans/inventories, or policies/actions?

	Mean No. Procedures (range 0-8)	Mean No. Plans (range 0-7)	Mean No. Policies (range 0-5)	Sum PPP (range 0-20)
Town board, village board, city council (n=12)	2.00	1.17	0.83	4.00
Planning Board (n=59)	2.88	1.23	0.783	4.91
Zoning Board of Appeals (n=7)	1.71	1.55	0.714	4.00
Conservation Advisory Council/ Environmental Commission (n=80)	2.38	1.80	0.756	5.01
Open Space Committee (n=28)	2.82	2.14	0.786	5.75
Comprehensive/Master plan committee (n= 30)	1.97	1.84	0.613	4.50

Relationship between Trainings and Assistance and Plans, Policies and Procedures

A significant and positive correlation was found between the number of trainings/assistance and the PPPs (Table 17). The same was true when the total number of hours of training was correlated to PPPs, though correlations were weaker.

Table 17. Correlations between program trainings/assistance and municipal actions taken.

	Pearson Correlations			
	Procedures	Plans	Policies	Sum Any PPP
Total number of HREP/Hudsonia trainings or assistance	0.321*	0.532*	0.325*	0.474*
Total number of training hours	0.117*	0.409*	0.186*	0.317*

*p<.05

Success Stories in Land-Use Planning

Participants were asked to describe a personal “success story” where they made a significant contribution to habitat conservation and/or improved land-use planning in their community. The research team categorized the 117 responses as: 1) Advocacy or Awareness-raising Roles; 2) Planning Outcomes; and 3) Land Conservation, Stewardship, and Recreation Access Outcomes.

Participants listed nineteen examples of advocacy and successful actions related to awareness-raising roles. The most common responses related to increasing others’ awareness of habitat; advocacy for biodiversity in municipal processes; influencing action in another community; and increasing peers’ awareness. One respondent wrote, *“I have tried to get people interested in the amphibian life cycle and discourage them from introducing fish into their private ponds. I have tried to encourage our local land conservancy to focus on preserving lands important for their biodiversity value.”* Another described their group’s continued advocacy efforts: *“All the members of the Rockland team are still heavily involved in these processes. All members are diligent advocates for biodiversity. Even ten years later our map has resurfaced and was recently reviewed at an Orangetown municipal meeting.”*

Participants described 48 planning outcomes at varying community levels (site-, town- and large-scale). These included contributing to drafting of or finalizing town policies, such as a wetland or watercourse law zoning laws. One resident wrote, *“[I] helped in developing the Habitat Assessment Guidelines. Wrote the Milan Wetlands Ordinance... unfortunately neither being used in Milan... [but] satisfied that other municipalities are benefiting from them.”* For site-scale planning, participants referenced successfully avoiding sensitive areas such as wetlands, wildlife habitat, wildlife corridors, forests, and stream buffers or implementing erosion control in planning efforts. At the town level, participants contributed to activities such as creating a habitat map or expanded an existing map to cover more acreage; one respondent *“helped with organizing and continuing the municipal will to apply for grants to create a municipal wide habitat mapping project. The training I received encouraged me to actively proceed in bringing this tool to my town and its planning board.”* Other examples of town-planning success stories included adding biodiversity protection to an open space or comprehensive plan; passing a

comprehensive plan or new zoning law; adopting a new open space plan; and use of a habitat map for town planning. For large-scale planning activities, examples were updating a county natural resource inventory (NRI), establishing an inter-municipal watershed council, and development of watershed plans.

Participants cited 29 instances of land conservation, stewardship and recreational access successes. For land conservation efforts, participants reported on municipal conservation easements or purchases; ongoing land trust work; and State land protection. One respondent described “...*assessing biodiversity values on properties along the Hudson River corridor from Albany to New York City. Using the data created and maintained by the Estuary Program was instrumental in justifying the protection of many properties of with high ecological value.*” Examples of implemented stewardship actions or plans were buffer plantings, forest management planning, and habitat management planning. Some participants brought attention to an important area by utilizing skills to identify habitat of a State-significant amphibian, and contributing to prioritization of open space: “*Using municipal open space funds, my committee identified and evaluated a 7-acre tract that connected two 800-acre tracts of watershed lands identified as keys to biodiversity in northeastern Westchester County. We then negotiated a deal with the land owners, and worked with the Town Board and the Planning Board to complete the purchase.*” Participants also reported helping to improve recreational access: applying for “Appalachian Trail Community” designation; creating new fishing access; and planning for a town nature preserve/trail (“*we are planning a preserve/trail system near a unique bog pond within the town*”).

Barriers to Program Participation

About one fifth (21%) of respondents did *not* use Hudson Estuary Program information or tools for municipal plans or inventories. 33% (n=75) of respondents did not use program information to inform municipal policies or actions, while 24% (n=53) did not use information to inform municipal procedures. These respondents were asked to list the reasons why they had not used the program’s resources (Table 18). Of twenty-three participants who responded, 35% were not or no longer on a municipal board or commission; 26% hadn’t yet had the opportunity to use them; and another 26% lacked support from their elected officials to do so. Almost 10% felt that the recommended actions would have resulted in too many restrictions for landowners and the community, while another 10% lacked support from colleagues/peers on their boards or commissions. These responses were not mutually exclusive.

Table 18. Reasons participants did not use information/tools from the Estuary Program (n=23)

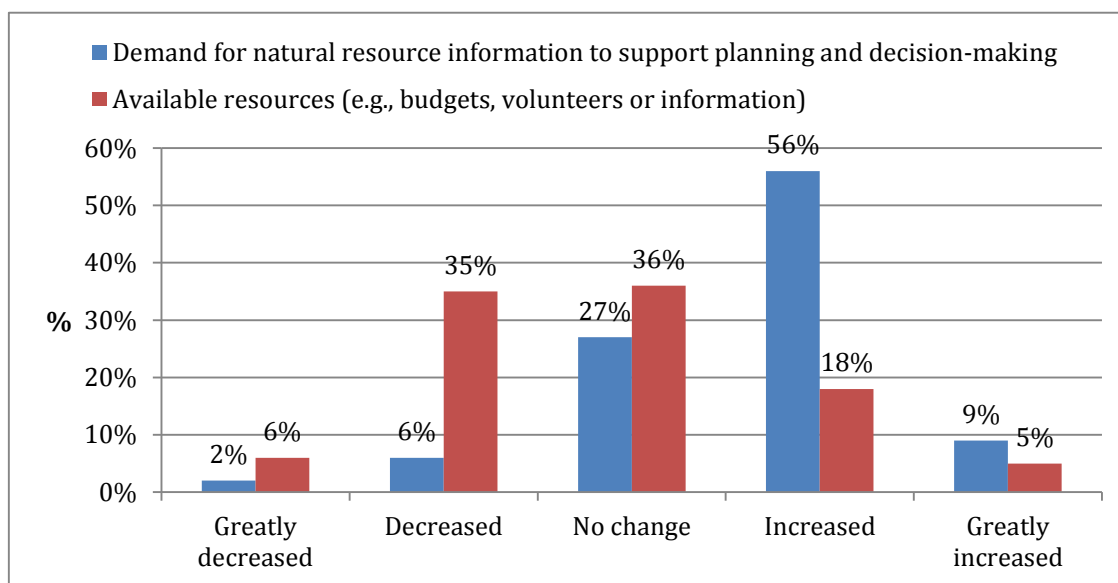
<i>Barriers</i>	Percentage of respondents who reported the barrier
I am not or no longer on a municipal board or commission	35%
I haven’t had the opportunity	26%
I lack support from elected officials in my municipality	26%
I think the recommended actions will result in too many restrictions for landowners and the community	9%
I lack support from my colleagues/peers on my board or commission	9%
I haven’t had the time	4%
I lack support from town staff or consultants (e.g., engineer, attorney, planner)	4%
I didn’t understand the information	4%
I think my municipality needs more resources (e.g., staff, equipment, etc.)	4%

Board, Commission, and Committee (BCC) Capacity

We also wanted to learn about the capacity of municipalities' BCCs to conserve biodiversity. In Figure 4, the change over time in demand for natural resource and biodiversity information are presented alongside the resources available for natural resource and biodiversity conservation (e.g., budget, volunteers, information). These results suggest a divergence between capacity and demand. Sixty-five percent of respondents indicated that the demand for information to help support planning and decision-making has increased or greatly increased over the last five years. However, only 23% of respondents indicated that the resources available have increased or greatly increased; 41% responded that available resources have decreased or greatly decreased, while 36% indicated that there has been no change in resources available. **These results demonstrate the continuing demand for resources and programs that increase municipal capacity to conserve biodiversity.**

We also asked participants where their BCCs get the natural resource information used in project review. The most frequently-reported source was *"report[s] from applicant's consultant about project"* (69%); 60% of participants cited *"existing town plans or inventories such as a Natural Resource Inventory or Open Space Plan,"* as well as the New York State Department of Environmental Conservation. More than half of participants (57%) reported that their BCCs use web-based natural resource information, such as national wetland inventory maps, aerial photos, and soil maps, and a *"report from town-sponsored consultant"* about the project.

Figure 4. Demand for natural resource and biodiversity information¹ and available resources² over the last five years within the respondents' board/commission/committee.



¹ Question Wording: Over the past 5 years, how has the demand for natural resource information to support planning and decision-making in your municipal board/commission/committee or organization/department changed?

² Question Wording: Over the past 5 years, how have resources (e.g., budgets, volunteers, or information) available to your municipal board/commission/committee or organization/department changed?

We asked what factors influenced the time and attention participants' BCC or organization/department gave to habitat conservation issues (Table 19). In general, respondents felt the following variables were important or very important: personal interest (68%); interests of the board, commission or committee chair or executive director (58%); priority in existing plans or organization mission (51%); state or federal

regulations (48%); and strong partnerships and vocal groups (each 45%). The areas that participants considered slightly or not at all important were: political pressure (52%); interests of project sponsor or board of directors (39%); strong partnerships (36%); and vocal board members (32%).

Table 19. Factors that influenced the time and attention given to habitat conservation by the respondents' board/commission/committee or organization/department.

	N	Mean*	Not at all important	Slightly important	Somewhat important	Important	Very important
Personal interest	175	3.86	5%	10%	18%	31%	37%
Interests of board/ commission/ committee chair or executive director	177	3.46	11%	11%	20%	35%	23%
Priority in existing plan or org. mission	175	3.37	7%	15%	26%	36%	15%
State or federal regulations	177	3.22	14%	13%	25%	32%	16%
Vocal community members or groups	179	3.15	11%	18%	27%	34%	11%
Strong partnerships	166	3.03	21%	15%	19%	30%	15%
Vocal board member	175	3.02	15%	17%	29%	29%	10%
Interests of project sponsor or board of directors	170	2.79	24%	15%	28%	22%	11%
Political pressure	178	2.51	34%	18%	20%	19%	10%

**1= not at all important, 2= slightly important, 3= somewhat important, 4= important, 5= very important*

Respondents provided information on what they thought their BCCs needed to better incorporate biodiversity into land-use or conservation planning (Table 20). Half of the respondents (50%) indicated that BCCs needed better or more training and/or technical assistance as well as a greater commitment from their leadership. This was followed closely (47%) by the need for greater coordination between BCCs as well as stronger mandates for BCCs.

Table 20. Needs of the board, commission, committee or organization/department to better incorporate biodiversity in land-use or conservation planning (n=168).

<i>Needs</i>	Percentage of respondents
1. Better (or more) training and/or technical assistance	50.0%
1. Greater commitment from leadership	50.0%
2. Greater coordination between boards/commissions/committees	47.0%
2. Stronger and clearer mandate for your boards/commissions/committees	47.0%
3. Increased access to available data	41.7%
4. More staff or consultant support	38.1%
5. Increased access to technology	34.5%
6. Greater coordination between neighboring municipalities	32.7%
7. Better volunteer recruitment and retention	32.1%
8. Stakeholder engagement	31.5%

Municipal Capacity

One section of the survey focused on *municipalities'* capacity to conserve biodiversity. The number of hours that town hall is open may be an indicator of municipal capacity. Most participants (62%) reported their town halls were open 21-40 hours per week; 17% reported more than 40 hours; 9% reported 11-20 hours, and 3% reported less than 10 hours. No significant correlation was found between town hall hours and use of Estuary Program information. Wellstead and Stedman (2010) found that the number of professional staff increased environmental policy capacity. Our study results show that respondents were more likely to have access to consulting planners, wetland inspectors, or biologists/ecologists than as staffed positions (Table 21). Respondents reported that they were most likely to have a consulting planner (83%), than a consultant wetland inspector (49%) or consultant biologist/ecologist (48%). Similarly, planners were more likely to be municipal staff (36%) than were wetland inspectors (12%) or biologist/ecologist (4%). T-tests reveal that use of information for municipal procedures, plans, and policies is significantly greater for those municipalities with a wetland inspector on staff. **Further, results show that use of Estuary Program information in municipal plans is significantly greater for those municipalities with a planner on staff and for those that consult with biologists/ecologists.** Our results also show that although most municipalities do not have staff that might support biodiversity policy, such support may help communities/people use the information provided by the Estuary Program. Another measure of capacity is the ability to use and manipulate data provided by the Estuary Program in a geographic information system (GIS). More than half of participants (58%) reported their municipalities used GIS in land-use or conservation planning review.

Table 21. Does your municipality staff the following positions?

		Staff (full or part time)		
	Number of respondents	Yes	No	Don't Know
a. Planner	151	36%	54%	10%
b. Wetland inspector	145	12%	79%	9%
c. Biologist/Ecologist	143	4%	83%	13%

		Consult as Needed		
	Number of respondents	Yes	No	Don't Know
a. Planner	119	83%	10%	7%
b. Wetland inspector	129	49%	30%	21%
c. Biologist/Ecologist	132	48%	28%	24%

As a measure of social capacity, participants were asked to consider the effectiveness of their municipalities' leadership as well as resident engagement in local issues (Table 22). In response to the statement, "*My municipality has capable leadership,*" almost half of participants (48%) agreed or strongly agreed, while one-fifth (19%) disagreed or strongly disagreed. Most did not think the turnover rate of their municipalities' boards, was high (62% disagreed or strongly disagreed)). More than half of participants (56%) agreed or strongly agreed that they and their municipal elected officials worked well together. When asked if residents were engaged in municipal issues and decision-making, almost half (46%) agreed or strongly agreed, but 28% disagreed or strongly disagreed. **About one-third of participants responded neutrally with regard to questions about municipal leadership, board turnover, and working relationships, suggesting that interactions among boards, elected officials and residents could be improved.**

Table 22. Municipal leadership and resident engagement

	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a. My municipality has capable leadership.	177	8%	11%	33%	30%	18%
b. My municipality's boards have a high rate of turnover.	175	11%	41%	32%	15%	2%
c. My municipal elected officials and I work well together.	173	4%	9%	32%	41%	15%
d. Residents are engaged in municipal issues and decision-making.	176	9%	19%	27%	37%	9%

We asked respondents to rate the condition of their community’s natural resources from poor to excellent (Figure 5), as perception of natural resources may influence decisions about land-use policy. A majority rated their natural resources as good (38%), very good (29%), and excellent (12%), while about a fifth rated them fair or poor (21%). We then asked about changes respondents perceived in their natural resources over time (Figure 6). The largest percentage of respondents (40%) felt there was no change in the condition of their communities’ natural resources over the last ten years, while 28% felt it was somewhat worse and 22% felt it was somewhat better. We also asked whether respondents thought that their community’s willingness to conserve natural areas and wildlife had increased or decreased over the last five years. About half the respondents said that their community has increased (48%) or greatly increased (5%) its willingness to conserve. Only 16% thought this willingness had decreased (13%) or greatly decreased (3%). However, despite the majority of respondents rating their community’s natural resources as good/very good/excellent and their community’s willingness to conserve as increasing over the years, 42% of respondents disagreed or strongly disagreed that their municipality had adequate procedures, plans, and policies in place to conserve biodiversity (Figure 8). When asked if they thought it was realistic to expect that their municipality would take additional steps in the next five years to conserve biodiversity (Figure 9), a slight majority indicated “definitely yes” (12%) or “probably yes” (45%).

Figure 5. The rated condition of communities’ natural resources. (n=177)

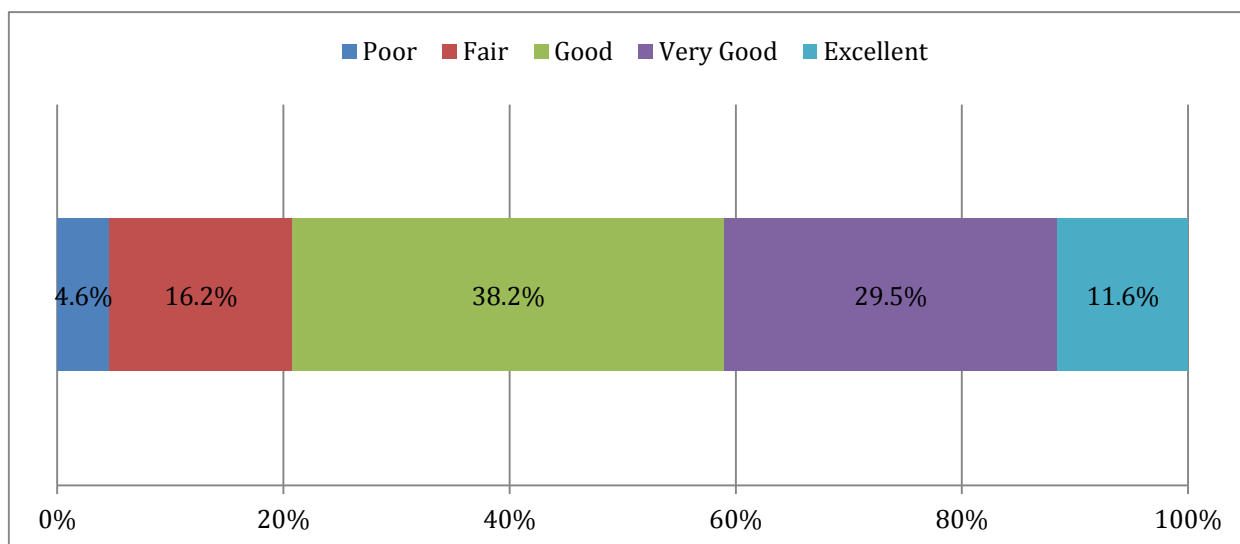


Figure 6. Change in condition of communities' natural resources over the last ten years. (n=177)

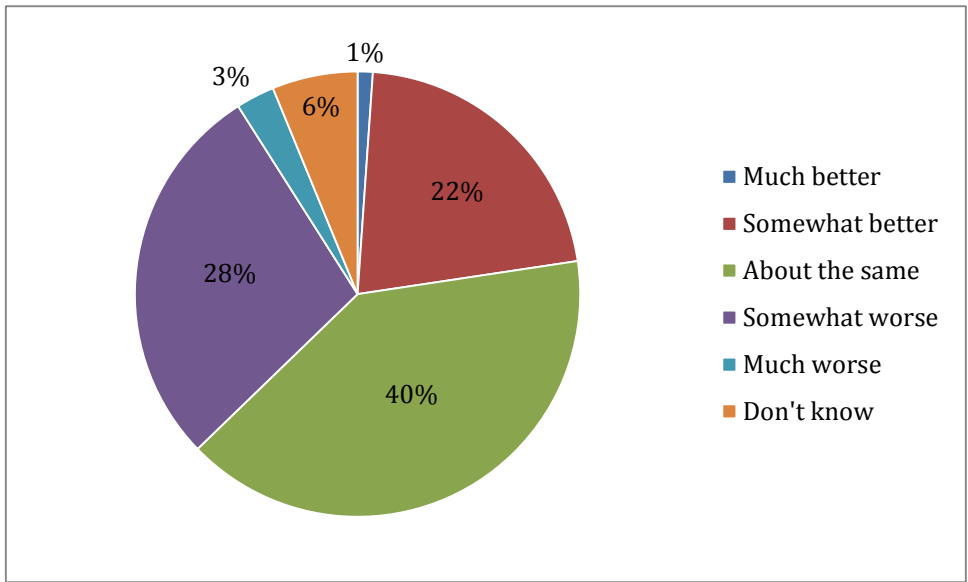
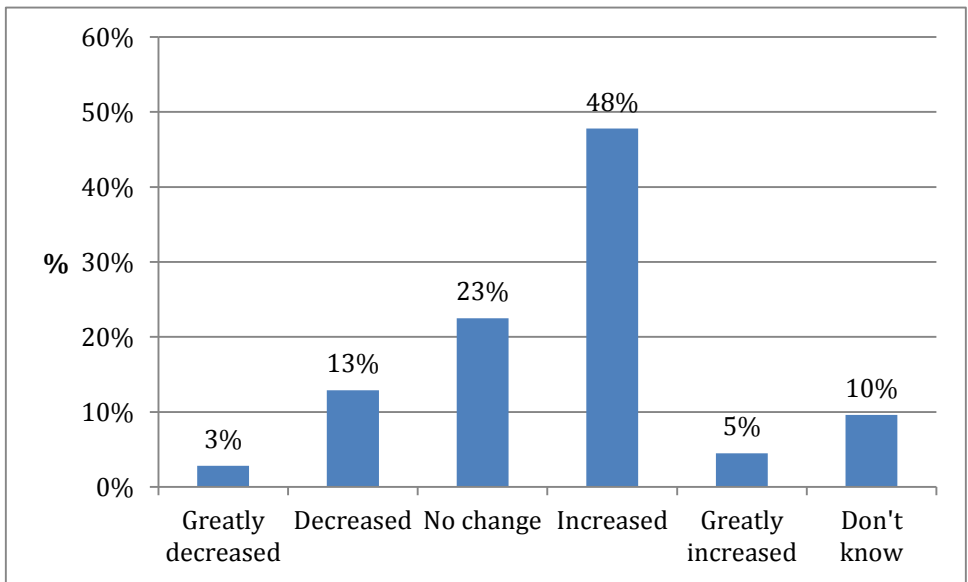


Figure 7. Change in communities' willingness to conserve natural areas and wildlife over the last five years. (n=178)



One hundred and twenty-five participants provided additional written responses regarding their municipalities' willingness to conserve natural resources and wildlife in their municipality. Fifty-six participants indicated that their communities were *more* willing to conserve natural areas, with the highest number citing increased awareness and/or concern for conservation issues (19 participants), more land trust or land protection activities (13 participants), and increased community involvement (11

participants) as examples. Additional evidence included conservation policies enacted (7 participants); town-planning initiatives developed or implemented (7 participants); improved communication (6 participants); shifts in local leadership (6 participants); conservation policies or practices in place (5 participants); and establishment of a Community Advisory Council (3 participants). One respondent shared, “...having a competent active CAC helps create a dialogue on conservation issues. Having a few educated and concerned conservation minded citizens on planning board helping too.” Another wrote: “With new leadership, a new town comprehensive plan, and zoning laws, there has been an increase in town citizens participating in town decisions. The town comprehensive plan spelled out the need to keep the town rural and protect the natural wildlife and water resources.”

Among the 25 participants who reported their communities were *less* willing to conserve natural areas and wildlife, the reasons cited most often was economic conditions (11 participants), followed by lack of political support (9 participants); development-oriented decision-making (5 participants); little or no interest (3 participants); and competing interests (2 participants). One respondent wrote, “We had some small success in open space preservation and local transportation planning about 10 years ago. Since then, interest is mostly lower. Some current watershed interest but mostly talk that does not recognize the local land-use process.”

Nineteen participants felt that there was *no change* in their communities’ willingness to conserve natural areas and wildlife. Reasons cited were the fact that their communities historically were already conservation-oriented (9 participants). Two participants identified their communities as development-oriented (“Being the retail hub of Ulster County, the main emphasis by the local government has been and continues to be the support of unrestricted development”), while others felt there was a lack of conservation opportunities in their communities (2).

Figure 8. Findings of whether municipalities have adequate plans, policies, and procedures in place to conserve biodiversity.

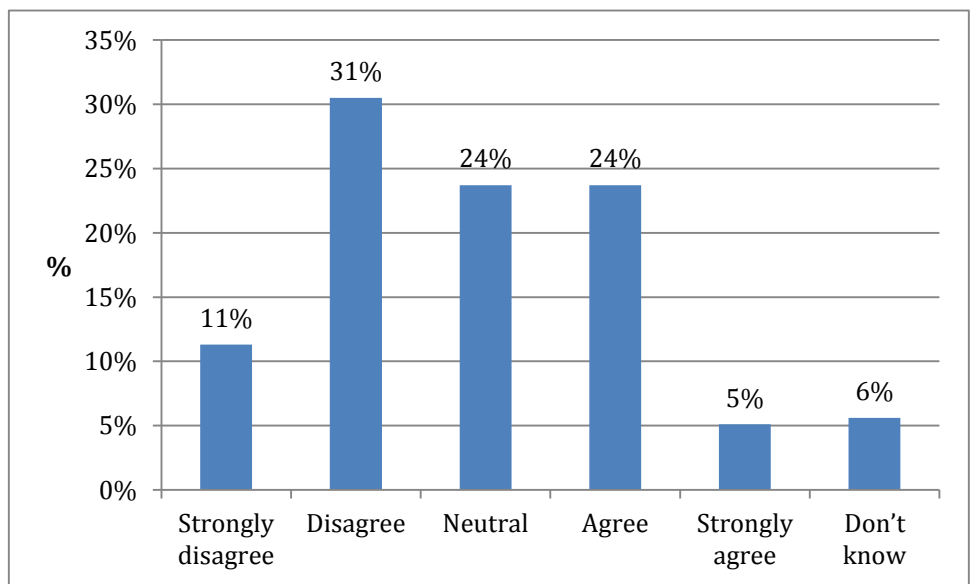
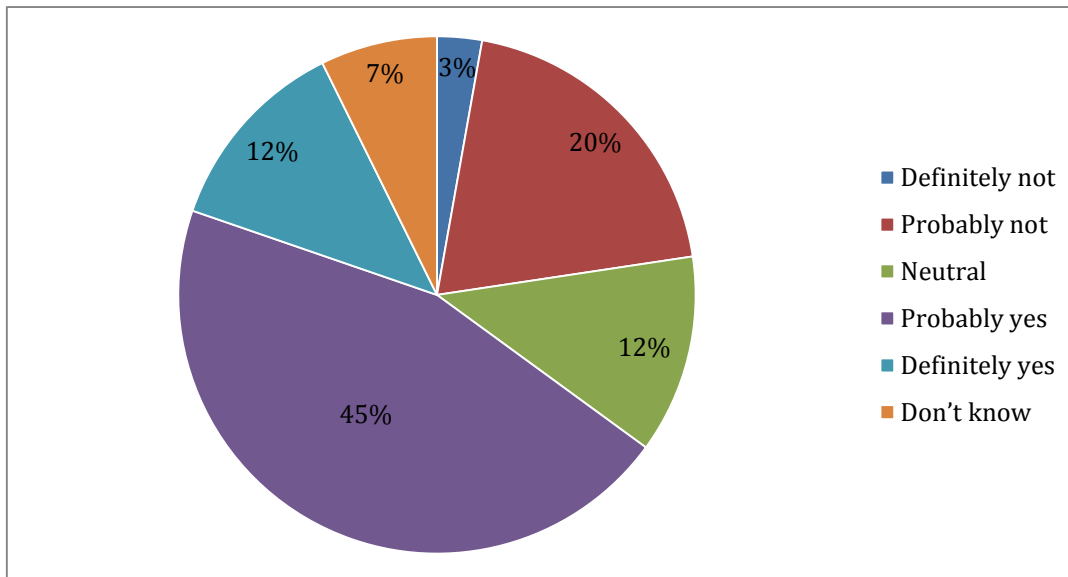


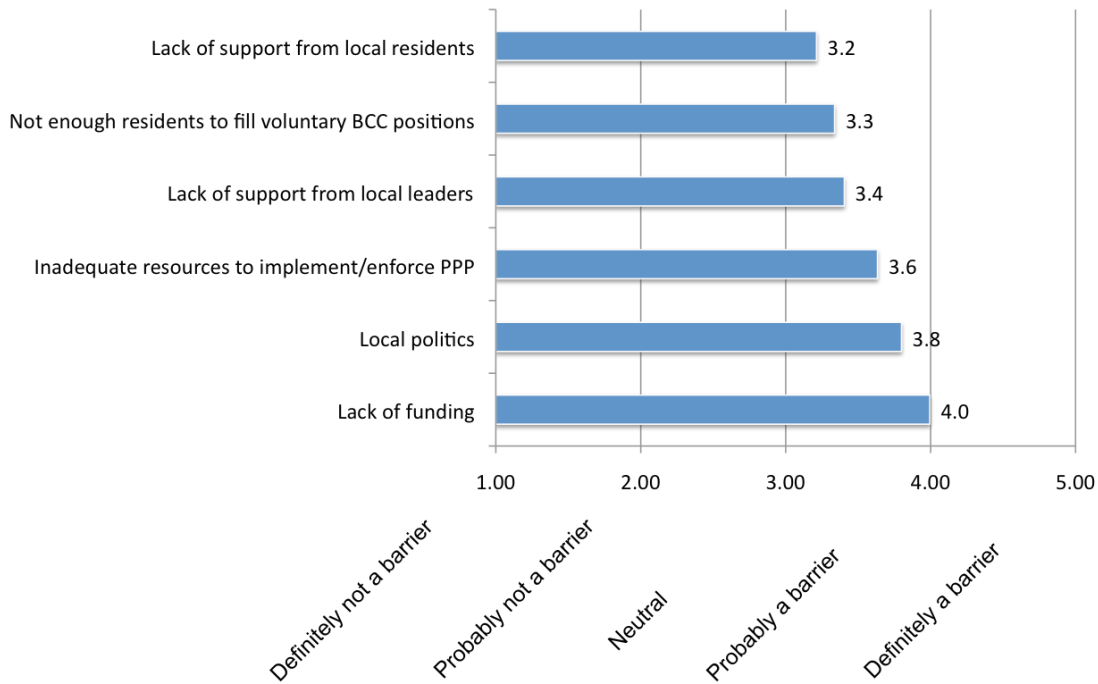
Figure 9. Expectations that municipality will take steps within the next five years to conserve habitats and biodiversity. (n=177)



Municipal Barriers

We also wanted to know what barriers municipalities faced to adoption of conservation-focused PPPs. Respondents were asked to rate how much of a barrier certain variables were, ranging from “definitely not a barrier” to “definitely a barrier.” Lack of funding was identified as the biggest barrier (4.0), closely followed by local politics (3.8) and lack of resources to implement PPPs (3.6). The remaining barrier variables were all rated more closely to “neutral” (3.0): lack of support from local leaders (3.4), not enough residents to fill BCC positions (3.3), and lack of support from local residents (3.2).

Figure 10. Average rating of municipal barriers to adoption of conservation-related PPPs



Most participants (72%) responded that natural resource conservation strategies are included in their municipalities’ comprehensive plans, 8% stated they were *not* included, and 14% did not know. The remaining 7% responded that their municipalities do not have a comprehensive plan.

Participant/Non-Participant Comparison

Below is a summary of the similarities and differences between the participant respondents (n=206) and non-participant respondents (n=31) grouped by topic area. Due to the small sample of the non-participants, no statistical analyses were conducted and we cannot make causal statements regarding program participation. We can compare whether differences or similarities exist between participants and non-participants, but without experimental data we are unable to attribute differences to program participation. Also, while the non-participant sample is made up of individuals who did not participate in Estuary program, it was difficult to identify an Estuary-wide sample across all municipal positions possible of those individuals that did not participate in the Estuary program. Please see Appendices B, D, and E for full results of the non-participant survey and the comparison with participants. We briefly summarize the comparisons here.

Socio-Demographic Attributes

Almost two-thirds of participants and non-participants were 55 years of age and older. A quarter of participants and one-third of non-participants were between the ages of 35 and 54. The key difference was that the participant group included 8% of respondents less than 35 years of age, while the non-participants had no respondents in that age group. In terms of gender, participants had an almost equal distribution of male and female respondents, while non-participants had a slightly greater number of males than females. Almost all of the participants and three-quarters of non-participants held bachelor's degrees at minimum. The difference in education levels was that 60% of participants held graduate or professional degrees, compared to 42% of non-participants; this finding suggests that the pool from which the program draws its participants may attract those who have attained graduate or professional degrees (this finding is consistent with prior findings on citizen participation on planning boards).

Environmental Attitudes

The majority of participants and non-participants agreed or strongly agreed on the importance of natural areas for supporting clean air and water, scenery, habitat and recreation; however, on average, approximately 77% of participants *strongly* agreed with these statements, versus 53% of non-participants. Another difference was the response to the statement, "Natural areas help communities adapt to climate change." 87% of participants agreed or strongly agreed with this statement, while only 74% of non-participants did.

Municipal Plans to Conserve Habitat and Biodiversity

More than half of non-participants agreed or strongly agreed that their municipalities have adequate plans, policies and procedures in place to conserve habitat and biodiversity. In contrast, only about one-third of participants did; moreover, 42% of participants disagreed or strongly disagreed with the statement. A higher percentage of participants (52%) compared to non-participants (42%) reported that their communities had increased or greatly increased their willingness to conserve natural areas. This may suggest—combining this response with the prior finding—that while participants may feel municipalities have increased their willingness to address conservation issues, their policy efforts to date have been inadequate and require additional work. Non-participants indicated at a higher rate than participant that there was no change in their communities' willingness to conserve habitat compared to participants (42% versus 23%, respectively).

Time Spent on and Barriers to Habitat Conservation

The majority of participants and non-participants spent between 1-10 hours on land-use or conservation planning, with almost 80% of participants doing so. However, almost 40% of non-participants reported that they spent 11 hours or more on conservation planning, compared to one-fifth of participants. Participants and non-participants differed in their responses on the lack of support from local residents: almost half of participants felt this *probably* or *definitely* was a barrier, compared to one-quarter of non-participants. Similarly, another barrier was the lack of support from local leaders: more than half of participants felt this was *probably* or *definitely* a barrier, compared to 27% of non-participants. Responses on local politics also presented some differences between the two respondent groups: whereas almost two-thirds of participants felt this was *probably* or *definitely* a barrier, only one-quarter of non-participants did.

Interactions with Other Agencies

Participants and non-participants interacted with other municipal committees (24% interacted often or very often) and neighboring municipal governments (about 55% interacted rarely or never) at relatively similar rates. However, participants reported interacting more often with the NYS Department of Environmental Conservation, conservation organizations and Conservation Advisory Councils, compared to non-participants. This result may reflect the program participants' conservation emphasis in their work with municipalities as compared to the municipal officials surveyed in the non-participant sample. This finding is also consistent with participants' responses revealing they learned about expert and peer conservation networks from the Hudson Estuary Program. Results also showed that non-participants interacted more often with Town/Village Boards and City Councils than did participants.

Other key differences included:

- Twice the percentage of non-participants interacted very often with their **Planning Boards**, compared to participants.
- Almost 40% of non-participants often or very often interacted with **Zoning Boards of Appeals**, compared to one-fifth of participants.
- 37% of participants 'sometimes' (from a range of 'never' to 'very often') interacted with **land trusts**, compared to 21% of non-participants in the same category.
- More than one-third of participants were likely to interact with **universities and colleges** sometimes, often or very often compared with one-fifth of non-participants.

Board/Commission/Committee Barriers

Many non-participants agreed or strongly agreed that their BCCs had enough members to carry out their goals, and their BCC colleagues trusted and worked well together (as compared to participants). Moreover, 57% of non-participants versus 35% of participants agreed or strongly agreed that their BCC colleagues trusted their municipal *elected officials*. In most cases, non-participants perceived fewer barriers than participants. Half of non-participants felt that the availability of resources (e.g., budgets, volunteers, information) to their municipal BCC or organization/department had *decreased* over the past five years, compared to one-third of participants. Another third of participants felt they had remained the same, compared to one-quarter of non-participants.

Natural Resource Conditions, Conservation Priorities, and Demand for Information

Wildlife habitat loss, loss of forests, loss of biodiversity, loss of farmland, and climate change were rated as of greater concern by participants than non-participants (Table 23), which is consistent with participants' conservation focus and responses to the survey. Stormwater management and drinking water quality were considered higher priorities to non-participants than participants. More than half of non-participants rated their community's current natural resource condition as very good or excellent, compared to 40% of participants. A majority of participants (58%) and half of non-participants responded that it is 'probably' or 'definitely' realistic to expect that their municipalities will take additional steps to conserve habitats and biodiversity in the next five years. While the largest percentages of both participants and non-participants felt conditions had remained the same during the past 10 years, 31% of participants felt they had gotten somewhat or much worse, compared to only 9% of non-participants. Almost two-thirds of participants felt that the demand for natural resource information to support planning and decision-making had increased or greatly increased, compared to 44% of non-participants. Non-participants, at almost twice the rate as participants, perceived *no change* in demand. Thus, participation

in the Estuary Program may be driven, in part, by perceived gaps in information and condition of natural resources.

Influences on Conservation

Participants and non-participants responded similarly in ranking the relative importance of State and Federal regulations, vocal community members or groups, vocal board members, and project sponsors/board of directors in influencing habitat conservation policies in their communities. A key difference was the influence of personal interest on conservation: more than two-thirds of participants considered this to be important or very important, compared to 44% of non-participants. More than 60% of non-participants considered conservation identified as a priority? in plans/missions as important or very important, compared to half of participants. Finally, participants were more likely than non-participants to believe that political pressure and interest of the BCC chair or executive director were important or very important.

Limitations of Non-Participant Survey

While it is useful to descriptively compare participants and non-participants we want to remind the reader of the small “n” for the non-participant survey. As reflected in Table 23 below, the number of non-participants was smaller than the number of participants. Thus, we are limited in the statistically significant conclusions that can be drawn from this comparison. These findings primarily illustrate possible trends between the two cohorts, without indicating a direct causal relationship of participant responses to the Estuary and without the ability to attribute participant knowledge/action gains solely to the Estuary Program.

Table 23. Participant and non-participant priority conservation issues.

Conservation Issue	Participants		Non-participants	
	Mean Participant rating	N	Mean Non-participant rating	N
Flooding	3.89	184	3.85	33
Wetland loss	3.87	183	3.70	33
Stormwater management	3.86	183	4.33	33
Drinking water quality	3.77	186	3.97	32
Declining stream health	3.75	183	3.49	33
Loss of forests	3.64	185	3.15	33
Wildlife habitat loss	3.61	185	3.09	33
Environmental pollution	3.51	183	3.59	32
Loss of farmland	3.39	178	2.31	32

Loss of biodiversity	3.35	178	3.00	32
Low-impact development/green infrastructure	3.34	182	3.44	32
Invasive plants and animals	3.22	184	2.97	33
Climate change	3.09	182	2.66	32
Hudson River shoreline management	2.52	167	2.28	29

SUMMARY AND RECOMMENDATIONS
(RECOMMENDATIONS IN BOLD, ALSO LISTED IN APPENDIX F)

Program Participation

The program is successful at attracting municipal leaders: over half of respondents currently chair or had chaired in the past their board, commission, or committee. Many respondents had 10 or more years of experience, while about one-fifth were at the beginning of their land-use planning experience (1-4 years). Those in the early stages of their land-use planning experience could benefit greatly from the Biodiversity Outreach Program trainings. **Perhaps the Estuary program could provide offerings tailored to those at the beginning of their land-use planning experience.**

Results show that the Biodiversity Outreach Program attracts participants from a diversity of positions, primarily from Conservation Advisory Councils/Environmental Commissions and Planning Boards and Open Space Committees. However, few respondents were from Town/Village Boards, City Councils or Zoning Board of Appeals. **To gain greater participation from the breadth of positions involved in land-use planning, the program can improve recruitment from Town and Village Boards, which have a role in local land-use policy, and open space and development decision-making.**

In terms of socio-demographic attributes, the respondents had a fairly even gender split and for age, tended toward those 55 years of age and older (about two-thirds of respondents) and also those with graduate degrees. Because volunteer members of land-use planning and other boards tend to be older and more highly educated (and less racially diverse) than the general population, **attracting a wider cross-section of participants that represent the communities that the Estuary Program is working in will continue to be a challenge.** The pool that the Estuary Program can draw from for their own programs will be limited unless municipal leadership positions are populated by middle-aged or younger residents, with less formal education (less than a graduate or professional degree) who may have an interest in land-use planning issues but are not currently involved.

The Estuary Program targets Planning Boards, Conservation Advisory Communities, and Open Space Committees with their programming. Results show that these are also the entities that had higher mean numbers of the municipal procedures and plans adopted as compared to other municipal boards, commissions, and committees. **We recommend continuing to target the program to individuals on Planning Boards, Conservation Advisory Communities, and Open Space Committees. Town boards were also important, particularly for municipal policy adoption, and could be given greater focus in future programming.**

The most important motivators for program participation were personal interest and desire to improve their own land-use conservation planning capacity, rather than external motivations such as fulfilling training requirements or pleasing leadership. The majority of respondents believe that the Estuary Program has helped them in their position in the community. Consistent with these findings, **HREP staff could consider marketing future training opportunities in terms of personal development in land-use conservation planning, including new knowledge and skills gained, and highlighting the benefits of becoming part of a network of like-minded residents and/or professionals.**

Program Outcomes and Impact

An overwhelming majority of respondents found that the 2000-2012 Hudson River Estuary Program offerings were useful to them. Almost all respondents agreed or strongly agreed that as a result of participating in the Estuary Program they have a better understanding of biodiversity principles; why biodiversity is important to their municipality and the role municipalities can play in conserving and enhancing habitat; how to identify specific land-use practices to conserve habitat; and knowing where to go for information on planning for biodiversity. However, they were much less confident about the “soft skills” gained from participating. About half agreed or strongly agreed they had become a better leader, while only 37% agreed they had improved their communication skills. There is overwhelming evidence that the assemblage of Estuary program offerings is successfully achieving goals related to program utility and application in land-use planning. One growth area is in the “soft skills” area. **The Estuary Program could consider augmenting existing training with modules in leadership and communication skills development (visioning, agenda-setting strategies, presentations, public speaking, team building, etc.) to support conservation and land-use planning.** This could enable participants to better articulate needs and work more effectively with fellow elected officials, municipal leadership and partner organizations and individuals in achieving goals.

Among the study’s most important findings was that respondents applied their newly gained knowledge and skills toward improving the conservation of local habitat and biodiversity. A majority of participants used Estuary Program information, assistance, or training towards municipal plans or inventories; municipal policies or actions; and/or municipal procedures. There was also a positive correlation found between Estuary Program programs/assistance and municipal actions taken, with the strongest association between municipal plans and assistance received (this was also true for the total number of training hours). Participants reported using publicly available information (e.g., national wetland inventory maps, aerial photos, soil maps) to inform project review, and helped their municipalities create habitat maps, municipal plans, and open space plans or inventories. They drew on program materials to update zoning that conserved natural areas, contributed to adoption of local laws to reduce impacts on natural areas, purchased property/development rights, and/or created an open space fund.

For those respondents who had not used information or tools from the Estuary Program, they reported they were not or no longer on a municipal board or commission; hadn’t had the opportunity; or lacked support from elected officials in their municipalities. These barriers point to the fact that the timing must be right to act with regard to conservation action. Many plans and policies are not routine actions and it may be that the Estuary Program is investing program resources today for the “opportunity” that arises years later. So there is a value to ensuring that the municipal community is educated, trained, and poised for seizing the moment when barriers are few and timing is right. Because of the long-term nature of policy implementation, **follow-up programming could be offered that specifically addresses this. For**

example, this may include focusing on transferring information and other skill sets (leadership, etc.) that would help in the policy implementation process, or providing ‘case studies’ on policy/planning successes that can serve as guidelines for learning (and needed action steps), and reference for future decision-making opportunities as they arise.

There was a great deal of sharing of what was learned in the program. Most respondents recommended the Estuary Program to others, and shared the information or materials received with their fellow board, commission or committee members. Many shared the information with others in their organization, other Town boards, commissions or committees as well as professional colleagues or people outside of their organizations. This finding suggests that **there may be opportunities to further build a local or regional peer network of participants, such as identifying participants to share strategies, resources and experiences; creating a network of intermediary trainers/peer educators; and/or expanding the reach of the program by asking past participants to identify colleagues or fellow volunteers who may be interested in attending.** For example, the program could explicitly address information transfer in the training; in addition, the program can consider a follow-up evaluation to find out how information is being shared.

A strong majority of HREP Biodiversity Outreach Program participants also took part in other educational opportunities such as Cornell Cooperative Extension workshops, County or Planning Federation workshops, and Pace Land-Use Leadership Alliance (LULA) training. Among others, county soil and water conservation district workshops, Hudson River National Estuarine Research Reserve workshops and Teatown’s Environmental Leaders Learning Alliance workshops were also mentioned. If this is not already the case, **HREP staff should continue working with other education providers to coordinate training efforts and the use of resources; exchange ideas and share participant lists to encourage greater outreach; create an online clearinghouse of upcoming events and resources; and/or find ways to provide dedicated areas of training to minimize duplication of efforts.**

Estuary Program Impact on Land-Use Plans, Policies, and Procedures

When examining the impact of particular trainings and assistance, there were differential outcomes in terms of municipal plan, policy, and procedure adoption. Nearly all of the types of training and assistance offered by the Estuary Program (10 of 11) were associated with a higher number of municipal plan, policy, and procedure adoption rates as reported by participants. For municipal policy adoption, requesting a habitat summary and requesting technical assistance mattered most, followed by requesting GIS data or assistance, or attending a presentation by the Estuary Program or Hudsonia. Also, those who participated in the Planning for Nature in Your Community workshop were more likely to have adopted a significantly higher number of municipal plans and procedures than did those not attending this training. The same relationship was true for those participants that requested a habitat summary, requested GIS data or assistance, or requested technical assistance such as plan feedback. For participants doing the latter (requesting technical assistance), they were also more likely to have adopted a significantly higher number of policies than those that did not request technical assistance. **There is a significant relationship between actively seeking information such as a habitat summary, GIS data, or technical assistance and the likelihood of municipal plans, policies, and procedures being adopted; we recommend that these resources continue to be provided as they are critical to municipal outcomes being achieved.**

Past and Current Land-Use Planning Positions

The majority of respondents who currently serve as a member of the Planning Board, Conservation Advisory Council, Open Space Committee and Town/Village Board or City Council, served on the same committees in the past. Other noted trends included those who previously served on Open Space Committees currently serve as Conservation Advisory Council and Comprehensive Plan Committee members. Similarly, prior Comprehensive Plan Committee members have continued to serve on Planning Boards and Conservation Advisory Councils. The commitment and continuity of these respondents are likely the strongest factors toward reaching land-use planning and biodiversity conservation goals over the long term. There were also positions that tended to be held concurrently, including Comprehensive Plan Committees and Planning Boards, Comprehensive Plan Committees and Conservation Advisory Councils. **HREP staff should consider specialized training for the more experienced members of governing boards. As feasible, query these members for specific areas of need and improvement, such as effective communication of technical content.**

Municipal Policy Capacity

In general, most municipal town halls were open 21-40 hours per week, which indicates that they are not necessarily operating at full capacity. While one-third of municipalities had planners on staff (either full or part time), most did not have wetland inspectors or biologists/ecologists on staff. While almost 60% used computer-based mapping (GIS) in land-use or conservation planning review, about one-quarter did not. These findings suggest that municipalities may not have adequate fiscal resources to hire natural resources/planning staff. Other municipal staff could benefit from conservation and GIS training and access to software. Encouraging shared staffing (or funding to support sharing of resources) could be beneficial. **The program could consider a two-pronged approach to working with municipal offices: while reaching out to municipalities without full-time staff (and/or with limited capacity), the Estuary Program can also identify better-resourced municipalities that have the greatest likelihood of attaining land-use planning and policy goals, with targeted assistance to develop case studies and models, and to utilize them as peer educators and networkers.**

Respondents' views about their relationship with municipalities and elected officials, their communities' natural resources, as well as the future of conservation decision-making were mixed. Most participants tended to disagree or felt neutral when asked if their municipalities has adequate plans, policies, and procedures in place to conserve habitat and biodiversity, although about 1 in 4 agreed that their municipalities did. Also, findings suggest that while the perception of the condition of their communities' natural resources has remained the same as in the past, some respondents feel natural resource conditions have worsened. This is happening concurrent to municipalities indicating on the survey that they have limited fiscal resources and possibly fewer staff specializing in this area. However, respondents were fairly confident that municipalities will continue to address conservation issues in the coming years. **In addition to ongoing subject matter training, there may be a need to provide supplemental policy/process training in communicating with elected officials, encouraging resident involvement, promoting community issues, etc., to maintain the current momentum of program participant efforts. Central to this may be strengthening ties among local and regional communities.**

Board, Commission, Committee Capacity

Time Spent on Land-Use Planning Role:

In general, most respondents stated that they met either once or twice per month in their land-use planning role. This amounted to about up to about 10 hours per month in their role in land-use or conservation

planning, which included preparation, site visits and meetings. Positions that seemed to warrant more time were Planning Board, Conservation Advisory Council, and Comprehensive Plan Committee members, with a few spending up to 20 hours per month in these positions. We looked at how often participants engaged in specific land-use planning tasks per role, taking into consideration the fact that these boards are tasked to work on activities such as environmental reviews, and some may be convened temporarily (e.g., Comprehensive Plan Committee) to address a specific need. All roles identified (Town/Village Board or City Council; Planning Board; Conservation Advisory Council; Open Space Committee; and Conservation Plan Committee) generally dealt with site plans on a yearly basis. Planning Board members tended to work on site plans, sub-division reviews and environmental reviews several times per year. Conservation Advisory Council members tended to work on sub-division reviews annually. Open Space Committee members reported that they dealt with open space plan development/implementation and on-site habitat assessment annually to every few years. Comprehensive Plan Committees worked on sub-division and environmental reviews yearly.

Municipal Board Working Relationships:

Most respondents agreed or strongly agreed that their board, commission or committee colleagues work well together, and that trust among them is high. About half thought that their boards, commissions and committees had enough members to carry out goals, and trust for their *municipal elected officials* was lower than it was for their fellow board, commission, or committee members. Also, less than one-third of respondents felt strongly about their municipality having capable leadership. These findings suggest that while respondents believe that **their board, commission, or committee works well together and trusts each other, that there may be opportunities to improve and strengthen relationships with elected officials.**

Interactions with Other Governing Bodies:

Respondents were asked how often they interacted with other governing bodies during the course of their land-use or conservation planning work. Responses that were cited most often were Conservation Advisory Councils, Boards, or Environmental Commissions, Planning Boards, Town/Village Boards or City Councils, and conservation organizations. Of those who provided an open-ended response (n=18), Cornell Cooperative Extension, non-government organizations (such as Hudsonia, Teatown, housing groups, etc.), and planning departments/town engineers were mentioned. This finding suggests that the boards, commissions and committees have been able to reach out to other boards and councils to address conservation and land-use planning issues of mutual concern and interest.

Motivating Factors:

Respondents were asked about the importance of motivating factors that influenced the amount of time and attention their boards, commissions and committees gave to habitat conservation. The highest priority cited was personal interest, followed by the interests of the board, commission or committee chair or executive director, as well as habitat conservation being identified as a priority in an existing plan or organization mission. State or federal regulations, strong partnerships, and vocal community members or groups were also referenced.

Demand of Natural Resources Information/Resource Availability:

While two-thirds of respondents felt that demand for natural resources information to support planning and decision-making had increased or greatly increased, they felt that resource levels—such as budgets, volunteers or information available—had decreased or remained the same during the past five years.

Board/commission resources have become more limited or remained at the same level, requiring that they do ‘more with less.’ This may place additional pressures on these governing bodies that are already stretched in terms of current staff and resource allocation, while demand for information continues to grow. **Consider ways for municipalities to share natural resources data or information with each another, as well as strengthening lines of communication with data providers such as NYS Department of Environmental Conservation, etc.**

Priority Issues:

When asked about priority issues to their board, commission or committee, respondents cited the following: wetland loss, flooding, stormwater management, declining stream health, and drinking water quality. The issues that were considered “low” or “very low” priorities were Hudson River shoreline management, climate change, loss of farmland, invasive plants and animals, and loss of biodiversity. **Consider new or refresher program modules with the priorities outlined above, while ensuring that identified ‘low priority’ topics (climate change, etc.) are integrated with existing program material such as flooding.**

Sources of Natural Resource Information:

When asked from where their board, commission or committee or organization/department accessed natural resource information used in project review, most identified the report from the applicant’s consultant about the project, existing town plans/inventories and/or NYS Department of Environmental Conservation data. Additional sources were reports from the town-sponsored consultant about the project and/or web-based natural resources information. The role of consultants for natural resources information appears to be important; **if possible, identify ways to better connect consultants and firms as partners in addressing information needs.**

Additional Needs:

Respondents were asked what their boards, commissions or committees or organization/department needed to better incorporate biodiversity in land-use or conservation planning. The highest rated needs were: better or more training and/or technical assistance; greater commitment from leadership; stronger and clearer mandate for boards, commissions and committees; greater coordination between boards, commissions and committees; increased access to available data; and more staff or consultant support. **The Estuary Program can continue to serve in a critical role for respondents by providing training and technical assistance, sources and linkages to available data, and staff support. Consider tailoring a module to the capacity needs of boards and organizations, such as developing operational mandates/approaches and enhancing collaborations among boards and committees, to enable greater effectiveness in meeting conservation goals.**

The primary barriers to adopting plans, policies and procedures were the lack of funding, local politics, inadequate resources, and lack of support from local leaders (more than 50% identified these as “probably” or “definitely” barriers). Additional barriers included not having enough residents to volunteer, and the lack of support from local residents. **The Estuary Program can play a key role in reducing these barriers through providing grants, utilizing peer networks to increase the number of municipal leaders with biodiversity knowledge and training, and tools for increasing support from local residents. While funding is important, training to support participants and expansion of peer networks is equally as critical.**

CONCLUSIONS

Research findings demonstrate that the River Estuary Program has met its program goals of providing the tools, information, assistance, and funding to enable participants to be more effective in decision-making roles around land-use, biodiversity, and conservation issues in their communities. Through the training and assistance provided by the Estuary Program, participants gained an understanding of the principles of conserving biodiversity, factors that contribute to the loss of biodiversity, and its importance to their municipalities. As a result of the training, participants are now able to identify specific land-use practices to conserve or enhance habitat and are better able to inform land-use decisions. Participants developed technical skills, such as habitat identification, mapping methods and field assessment and also applied the knowledge and skills gained in municipal decision-making plans, policies, and procedures. Participants also shared Estuary Program information and resources with their boards, colleagues, and officials from other towns or municipalities, further expanding the reach and impact of the program. Participants were able to draw on the existing local network of experts and practitioners in biodiversity and land-use conservation for guidance and technical assistance. The Estuary Program is impacting land-use outcomes for biodiversity as all but one of the Estuary Program trainings/assistance were associated with a higher number of municipal plan, policy, and procedure adoption rates as reported by participants.

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APPENDIX A: PARTICIPANT SURVEY INSTRUMENT WITH FREQUENCIES

Survey of Community Planning and Conservation – PARTICIPANTS

This survey is part of the following project:

Contract: DEC-DNR Biodiversity Conservation Research and Support (OSP #61633-Task 3)

Project Title: Designing an Evaluation Protocol for the Hudson River Estuary Program Biodiversity Outreach Program

Contributors: Shorna Broussard Allred, Richard Stedman, and Maureen Mullen of Cornell University's Human Dimensions Research Unit (HDRU), and Karen Strong and Laura Heady of the Hudson River Estuary Program (HREP) Biodiversity Outreach Program.

Survey implementation dates: February 12, 2013 – March 24, 2013

Survey sample: In total, 206 participants completed the survey out of a possible 547 with valid email addresses, yielding a response rate of 37.66%. Additionally, 47 participants started the survey, answered at least one question, but did not complete it. These partially completed cases are also included as part of the final dataset; n=253, yielding a total response rate of 46.25%.

Survey description: This is an online survey of participants of the Hudson River Estuary Program's Biodiversity Outreach Program, an outreach and technical assistance program. The purpose of the survey is to improve the understanding of respondents' needs as decision-makers, and determine what future changes may be needed in the program. The following document presents the results of this survey.

1. Have you ever served or are you currently on a municipal board, commission, or committee? (please check one)

n=253

- Yes [skip to #3] **205 (81%)**
- No [continue to #2] **48 (19%)**

2. If you have never served on a municipal board, commission, or committee, which best describes you: (please check one)

n=48

- Municipal staff (e.g., town engineer, code enforcement officer, planner) [If this is checked, respondent will answer Q#6-31, #36-43, #44-47] **6 (12.5%)**
- Land Trust board, staff, or volunteer [if this is checked, respondents will answer Q#6-20, #36-41, #44-47] **13 (27.1%)**
- Watershed group board, staff, or volunteer [if this is checked, respondents will answer Q#6-20, #36-41, #44-47] **5 (10.4%)**
- Conservation organization board, staff, or volunteer [if this is checked, respondents will answer Q#6-20, #36-41, #44-47] **14 (29.2%)**
- Consultant [if this is checked, respondents will answer Q#6-20, #36-41, #44-47] **4 (8.3%)**
- Interested Citizen [if this is checked, respondents will answer Q#6-20, #21-31, #44-47] **6 (12.5%)**

3. What is your formal role in municipal land-use or conservation planning? (please check all that apply)

n=205

- Town board, village board, city council **15 (7.3%)**

- o Planning board 63
(30.7%)
- o Zoning board of appeals 7
(3.4%)
- o Conservation advisory council/Environmental commission 89
(43.4%)
- o Open space committee 31
(15.1%)
- o Comprehensive/Master plan committee
34 (16.6%)
- o None of the above 0
- o Other municipal board, commission, or committee (e.g., tree commission) (please specify) (open-ended)
45 (22.0%)

• Ag and Farmland Protection Board
• Agricultural board
• Albany Pine Bush Commission & Technical Committee Member
• Assessment
• County Environmental Management Council
• Environmental Committee
• Farm Land Protection- Town of Montgomery
• Habitat mapping committee
• Historic District Commission
• Historic Properties Commission, Danbury, Ct
• Industrial Development Agency
• Numerous strategic/small area plans; zoning update committee
• Recycling - www.pleasantvillerecycles.org
• Secretary Tree and Ag Com
• Significant Environmental Areas Mgt. Appeals Bd.
• Stormwater Coalition
• Trails Committee
• Transportation implementation

• Tree commission, environmental group member
• Tree committee
• Visual Quality Task Force
• Watershed organizations, water issue working group, all inter-municipal
• Zoning Code Review Committee
• Zoning Review Committee
• Zoning Review Committee (Comp Plan review)
• Zoning update

4. What municipal board, commission, or committee have you served on in the past?
(please check all that apply)

n=203

- o Town board, village board, city council **18**
(8.9%)
- o Planning board **56**
(27.6%)
- o Zoning board of appeals **10**
(4.9%)
- o Conservation advisory council/Environmental commission **105**
(51.7%)
- o Open space committee **35**
(17.2%)
- o Comprehensive/Master plan committee
55 (27.1%)
- o None of the above
20 (9.9%)
- o Other municipal board, commission, or committee (e.g., tree commission) (please specify) (open-ended)
44 (21.7%)

• Agricultural board
• Architectural Review

• Associated non-profits
• Farmland protection-Town of Montgomery
• GIS
• Habitat Advisory Committee for Greene County Soil and Water CD
• Habitat mapping committee
• Industrial Siting Committee
• Land Use Advisory Committee
• St. Margarets, Tree Com, Ethics
• Stormwater coalition, Water Quality Committee (like the state wide WQCCs)
• Transportation
• Tree
• Tree commission member, environmental group member
• Youth Board
• Zoning amendment committee
• ZRC and Climate Task Force

5. For any of the boards, commissions, or committees listed above, have you served as chair? (please check all that apply)

n=179

- Yes, currently **37**
(20.7%)
- Yes, in the past **63**
(35.2%)
- No **86**
(48.0%)

6. How long have you been involved in local land-use or conservation planning in a formal capacity? (please check one)

n=236

- Less than 1 year **5**
(2.1%)

- o 1-4 years **51**
(21.6%)
- o 5-9 years **81**
(34.3%)
- o 10-20 years **61**
(25.8%)
- o More than 20 years
38 (16.1%)

7. To what extent to you agree with the following statements? (please check one per row)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a. I have a personal responsibility to leave the earth in good condition for future generations. n=245	5 (2.0%)	0 (0%)	3 (1.2%)	32 (13.1%)	205 (83.7%)
b. Natural areas like forests are important for maintaining clean air. n=245	6 (2.4%)	0 (0%)	2 (0.8%)	30 (12.2%)	207 (84.5%)
c. Natural areas like wetlands are important for maintaining clean water. n=246	6 (2.4%)	0 (0%)	2 (0.8%)	30 (12.2%)	208 (84.6%)
d. Natural areas provide scenery. n=245	6 (2.4%)	0 (0%)	3 (1.2%)	44 (18.0%)	192 (78.4%)
e. Natural areas help communities adapt to climate change. n=244	7 (2.9%)	4 (1.6%)	20 (8.2%)	45 (18.4%)	168 (68.9%)
f. Natural areas provide important habitat for many species of plants and animals. n=247	6 (2.4%)	0 (0%)	2 (0.8%)	24 (9.7%)	215 (87.0%)
g. Natural areas provide recreation opportunities like hiking, fishing, boating, hunting, and bird-	6 (2.4%)	1 (0.4%)	4 (1.6%)	43 (17.4%)	193 (78.1%)

watching. n=247					
h. New medicines to treat diseases like cancer may be derived from plants and animals. n=244	5 (2.0%)	1 (0.4%)	32 (13.1%)	79 (32.4%)	127 (52.0%)

Program Participation Details

8. What kind of assistance have you received from the Hudson River Estuary Program, approximately what year did you receive it, and how useful has it been to your work? (1=not at all useful, 2=slightly useful, 3=moderately useful, 4= useful, 5=very useful)

	Approximate Year (open-ended)	Usefulness (please check one)					
		1	2	3	4	5	
a. <i>Planning for Nature in Your Community</i> – Estuary Program workshop on using State Environmental Quality Review (SEQR) more effectively to conserve habitat Year: n=33 Usefulness: n=49	2000: 2 (6.1%) 2004: 1 (3.0%) 2005: 1 (3.0%) 2006: 3 (9.1%) 2007: 1 (3.0%) 2008: 3 (9.1%) 2009: 5 (15.2%) 2010: 11 (33.3%) 2011: 5 (15.2%) 2012: 1 (3.0%)	3 (6.1%)	2 (4.1%)	7 (14.3%)	21 (42.9%)	16 (32.7%)	
b. <i>Biodiversity Assessment Training</i> presented by Hudsonia (10-month program)	2000: 2 (3.1%) 2001: 3 (4.7%) 2002: 3 (4.7%) 2003: 5 (7.8%)	1 (1.1%)	1 (1.1%)	9 (10.2%)	22 (25.0%)	55 (62.5%)	

Year: n=64 Usefulness: n=88	2004: 7 (10.9%) 2005: 5 (7.8%) 2006: 7 (10.9%) 2007: 10 (15.6%) 2008: 4 (6.3%) 2009: 10 (15.6%) 2010: 8 (12.5%)					
c. <i>Biodiversity Assessment Short Course</i> presented by Hudsonia (3-day program) Year: n=73 Usefulness: n=88	2000: 1 (1.4%) 2002: 3 (4.1%) 2003: 5 (6.8%) 2004: 6 (8.2%) 2005: 6 (8.2%) 2006: 4 (5.5%) 2007: 9 (12.3%) 2008: 6 (8.2%) 2009: 6 (8.2%) 2010: 14 (19.2%) 2011: 9 (12.3%) 2012: 4 (5.5%)	1 (1.1%)		4 (4.5%)	21 (23.9%)	62 (70.5%)
d. <i>Biodiversity Assessment Workshop</i> presented by Hudsonia (1-day workshop) Year: n=44 Usefulness: n= 57	2000: 2 (4.5%) 2002: 1 (2.3%) 2003: 1 (2.3%) 2005: 3 (6.8%) 2007: 1 (2.3%) 2008: 3 (6.8%) 2009: 9 (20.5%) 2010: 13 (29.5%) 2011: 4 (9.1%) 2012: 7 (15.9%)	2 (3.5%)		5 (8.8%)	17 (29.8%)	33 (57.9%)
e. Biodiversity Conservation Roundtables offered by	2004: 3 (4.0%) 2005: 5 (6.7%)	1 (1.1%)	3 (3.3%)	11 (12.0%)	32 (34.8%)	45 (48.9%)

<p>the Estuary Program and/or Hudsonia</p> <p>Year: n=75</p> <p>Usefulness: n=92</p>	<p>2006: 6 (8.0%)</p> <p>2007: 2 (2.7%)</p> <p>2008: 5 (6.7%)</p> <p>2009: 10 (13.3%)</p> <p>2010: 12 (16.0%)</p> <p>2011: 13 (17.3%)</p> <p>2012: 19 (25.3%)</p>					
<p>f. Geographic Information Systems (GIS) Training presented by Cornell (2-day program)</p> <p>Year: n=29</p> <p>Usefulness: n=41</p>	<p>2003: 4 (13.8%)</p> <p>2005: 1 (3.4%)</p> <p>2006: 2 (6.9%)</p> <p>2007: 1 (3.4%)</p> <p>2008: 3 (10.3%)</p> <p>2009: 2 (6.9%)</p> <p>2010: 6 (20.7%)</p> <p>2011: 8 (27.6%)</p> <p>2012: 2 (6.9%)</p>	<p>2 (4.9%)</p>	<p>4 (9.8%)</p>	<p>8 (19.5%)</p>	<p>9 (22.0%)</p>	<p>18 (43.9%)</p>
<p>g. Attended a presentation by Estuary Program (Laura Heady or Karen Strong) or Hudsonia staff</p> <p>Year: n=104</p> <p>Usefulness: n=141</p>	<p>2000: 2 (1.9%)</p> <p>2001: 1 (1.0%)</p> <p>2003: 1 (1.0%)</p> <p>2004: 3 (2.9%)</p> <p>2005: 2 (1.9%)</p> <p>2006: 4 (3.8%)</p> <p>2007: 4 (3.8%)</p> <p>2008: 8 (7.7%)</p> <p>2009: 12 (11.5%)</p> <p>2010: 20 (19.2%)</p> <p>2011: 22 (21.2%)</p> <p>2012: 25 (24.0%)</p>	<p>2 (1.4%)</p>	<p>1 (0.7%)</p>	<p>5 (3.5%)</p>	<p>55 (39.0%)</p>	<p>78 (55.3%)</p>
<p>h. Requested a habitat summary from the Estuary Program</p>	<p>2000: 1 (5.0%)</p> <p>2005: 1 (5.0%)</p> <p>2007: 2 (10.0%)</p>	<p>2 (8.7%)</p>		<p>1 (4.3%)</p>	<p>4 (17.4%)</p>	<p>16 (69.6%)</p>

Year: n=20 Usefulness: n=23	2008: 2 (10.0%) 2009: 5 (25.0%) 2010: 2 (10.0%) 2011: 2 (10.0%) 2012: 5 (25.0%)					
i. Requested GIS data or assistance from the Estuary Program or Hudsonia Year: n=28 Usefulness: n=34	2000: 1 (5.1%) 2001: 1 (5.1%) 2007: 2 (7.1%) 2008: 4 (14.3%) 2009: 4 (14.3%) 2010: 7 (25.0%) 2011: 1 (5.1%) 2012: 8 (28.6%)	1 (2.9%)	2 (5.9%)		4 (11.8%)	27 (79.4%)
j. Requested technical assistance from Estuary Program or Hudsonia staff, including feedback on plans or projects Year: n=39 Usefulness: n=52	2000: 2 (5.1%) 2005: 2 (5.1%) 2006: 2 (5.1%) 2008: 2 (5.1%) 2009: 6 (15.4%) 2010: 3 (7.7%) 2011: 4 (10.3%) 2012: 18 (46.2%)	1 (1.9%)		2 (3.8%)	10 (19.2%)	39 (75%)
k. Received an Estuary Grant Year: n=35 Usefulness: n=46	2000: 1 (2.9%) 2002: 1 (2.9%) 2004: 3 (8.6%) 2005: 1 (2.9%) 2006: 8 (22.9%) 2007: 2 (5.7%) 2008: 7 (20.0%) 2009: 4 (11.4%) 2010: 2 (5.7%) 2011: 3 (8.6%)	1 (2.2%)		2 (4.3%)	5 (10.9%)	38 (82.6%)

	2012: 3 (8.6%)					
I. Other (please specify) (open-ended) Year: n=13 Usefulness: n=18	2001: 1 (7.7%) 2005: 2 (15.4%) 2008: 2 (15.4%) 2010: 3 (23.1%) 2011: 1 (7.7%) 2012: 4 (30.8)	1 (5.6%)		1 (5.6)	1 (5.6%)	15 (83.3%)

- 2nd Grant
- Applied what I learned from it in trying to change things in my town
- Assistance with WMP & maps
- Attended many Watershed Omelette and Shawangunk Ridge Biodiversity Partnership Programs
- Attended other presentations by HREP staff
- Cannot recall
- Consultation, 1999-2006
- Dates are very approximate. I have had much more interaction with Estuary Program.
- Don't recall
- Estuary grant to Hudsonia to complete habitat map in progress
- Fyi, was not given gis help
- Had help wetland special protection status
- Hudsonia habitat mapping Woodstock
- I get emails updates from estuary staff (which are very helpful) & have gone to Green infrastructure meeting with Estuary staff
- Local Conservation Roundtable
- LULA
- LULA graduate Pace
- LULA Shoreline Adaptation & Resiliency Training
- LULA Training
- On-going HRE Grants

● On-going partnering on programs
● Other workshops with Hudsonia or Estuary staff among the presenters
● Reports by Hudsonia have been very useful as source material for planning documents such as the plan for a nature preserve and the FEIS where Hudsonia did wetland mapping and habitat assessment.
● See Chairwoman
● Several grants, Trees for Tribes, LULA, etc.
● Site planning workshop - ELLA, Teatown
● Some of above were multiple years
● The estuary program has been an important partner with The Shawangunk Ridge Biodiversity Partnership ivy providing technical assistance and partnering on offering educational programs
● Too many to list here
● WAVE w Alene Onion
● Wetland presentation to town board
● Worked for the Estuary Program

9. How important were the following reasons to your participation in Estuary Program training(s) or technical assistance? (please check one per row)

	Not at all important	Slightly important	Somewhat important	Important	Very important
a. I wanted to improve my capacity for land-use and conservation planning. n=216	4 (1.9%)	3 (1.4%)	11 (5.1%)	59 (27.3%)	139 (64.4%)
b. I needed to fulfill my annual training requirement. n=170	104 (61.2%)	16 (9.4%)	25 (14.7%)	19 (11.2%)	6 (3.5%)
c. Leadership (e.g., town supervisor, committee chair) encouraged me to attend. n=163	86 (52.8%)	20 (12.3%)	25 (15.3%)	22 (13.5%)	10 (6.1%)
d. The program was recommended to me by a peer. n=177	41 (23.2%)	16 (9.0%)	36 (20.3%)	52 (29.4%)	32 (18.1%)
e. I have a personal interest in this	4	2	13	59	136

subject. n=214	(1.9%)	(0.9%)	(6.1%)	(27.6%)	(63.6%)
f. Other (please specify) (open-ended) n=13	1 (7.7%)	0 (0%)	0 (0%)	3 (23.1%)	9 (69.2%)

<ul style="list-style-type: none"> ● Consultation with conservation colleagues
<ul style="list-style-type: none"> ● Finger-tip knowledge to qualify environmental issues
<ul style="list-style-type: none"> ● Good foundation for current job
<ul style="list-style-type: none"> ● Hope to pass education on to zoning and planning boards
<ul style="list-style-type: none"> ● HR Volunteer Stream Monitoring Program Development
<ul style="list-style-type: none"> ● I thought it would help with my job
<ul style="list-style-type: none"> ● I'm a professional planner in NJ and NY is different and wanted to understand NY better
<ul style="list-style-type: none"> ● Keep current
<ul style="list-style-type: none"> ● My interest has since waned; few opportunities to utilize
<ul style="list-style-type: none"> ● Need for info
<ul style="list-style-type: none"> ● Networking and collaboration with peers and potential project partners
<ul style="list-style-type: none"> ● None of my positions required annual training
<ul style="list-style-type: none"> ● Professional interest
<ul style="list-style-type: none"> ● To improve my skills and knowledge as a CAC member
<ul style="list-style-type: none"> ● Wanted to ma habitats in our community to raise awareness for protecting the Shawangunk Ridge- a significant local habitat and international treasure :D
<ul style="list-style-type: none"> ● Without a science background, regular workshops help my understanding and reinforce the skills from previous ones.
<ul style="list-style-type: none"> ● Without this program never ever would have been involved in watershed issues and planning
<ul style="list-style-type: none"> ● Work for CCE
<ul style="list-style-type: none"> ● Work recommendation

10. How much has your participation in the Estuary Program helped you in your position in your community? (please check one)

n=225

- o Not at all helpful **5**
(2.2%)
- o Slightly helpful **18**
(8.0%)
- o Somewhat helpful **42**
(18.7%)
- o Helpful **85**
(37.8%)
- o Very helpful **75**
(33.3%)

11. After your participation in the Estuary Program, how would you rate the following? (please check one per row)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a. I better understand the principles of conserving biodiversity. n=212	1 (0.5%)	0 (0%)	19 (9.0%)	94 (44.3%)	98 (46.2%)
b. I better understand factors that contribute to loss of biodiversity. n=210	1 (0.5%)	0 (0%)	21 (10.0%)	106 (50.5%)	82 (39.0%)
c. I understand why biodiversity is important to my municipality or organization. n=211	1 (0.5%)	1 (0.5%)	24 (11.4%)	96 (45.5%)	89 (42.2%)
d. I understand the role of my municipality or organization in conserving or enhancing habitat. n=208	1 (0.5%)	2 (1.0%)	28 (13.5%)	92 (44.2%)	85 (40.9%)
e. I can identify specific land-use practices to conserve or enhance	1 (0.5%)	2 (0.9%)	25 (11.8%)	100 (47.4%)	83 (39.3%)

habitat. n=211					
f. I better understand the technical tools that could be used for conservation practices (such as GIS). n=209	2 (1.0%)	8 (3.8%)	41 (19.6%)	94 (45.0%)	64 (30.6%)
g. I am more interested in the relationship between biodiversity and land-use. n=210	1 (0.5%)	1 (0.5%)	35 (16.7%)	90 (42.9%)	83 (39.5%)
h. I am better able to inform and influence land-use decisions. n=211	2 (0.9%)	3 (1.4%)	37 (17.5%)	94 (44.5%)	75 (35.5%)
i. I was introduced to local leaders and decision-makers from other communities or organizations. n=208	0 (0%)	9 (4.3%)	56 (26.9%)	81 (38.9%)	62 (29.8%)
j. I intend to use the information I received. n=211	1 (0.5%)	1 (0.5%)	17 (8.1%)	91 (43.1%)	101 (47.9%)
k. I am more confident that my actions will make a difference. n=210	1 (0.5%)	7 (3.3%)	64 (30.5%)	81 (38.6%)	57 (27.1%)
l. I became a better leader. n=206	1 (0.5%)	11 (5.3%)	88 (42.7%)	68 (33.0%)	38 (18.4%)
m. I know where to go for information on planning for biodiversity. n=211	1 (0.5%)	0 (0%)	15 (7.1%)	103 (48.8%)	92 (43.6%)
n. I sought out more information on the topic(s). n=205	3 (1.5%)	6 (2.9%)	44 (21.5%)	101 (49.3%)	51 (24.9%)
o. I improved my communication skills. n=204	4 (2.0%)	17 (8.3%)	107 (52.5%)	55 (27.0%)	21 (10.3%)

12. What was the most important thing you learned from participating in the Estuary Program? (open-ended) **n=141 (please see page 30 for answers)**

13. Have you used the biodiversity information, assistance, or training provided by the Estuary Program to help your municipality create, update, or provide recommendations to any of the following **municipal plans or inventories**? (please check all that apply)

n=228

- o Comprehensive plan **72**
- o Natural resource inventory **57**
- o Habitat map **74**
- o Open space plan or inventory **58**
- o Watershed plan **38**
- o Regional plan **11**
- o I did not use the information to help with a plan or inventory

49

- o Other (please specify) (open-ended) **31**

• CCEDC Dutchess County Matrix of Local Laws
• Code review
• Habitat study for a small community nature preserve that supposedly helped a bit with acquisition of a grant
• I have only once worked at the municipal level but mostly work with many landowners (farmers, nonfarmers, land trust) on habitat maps and natural resource inventories of the land they steward
• Individual site development proposals
• Knowledge was used for specific ecological restoration and Conservation planning project not associated with my municipality
• New building site proposals
• None of the above as a member of a commission etc but as a paid "special projects" consultant
• Private Conservation Development Plan
• Proposed zoning code revisions
• Provided a Meadow Maintenance Plan
• Push for CAC & GIS training
• Site specific planning
• Special protection application for wetlands
• Strategic Plan

• Trail maps
• Tree ordinance requiring forest management planning for our woodlands
• Tree preservation ordinance
• Tried--was not allowed
• Use of natural parkland using info to protect a unique habitat
• Waterfront redevelopment plans, Environmental Justice Inventories, Climate Justice Assessments, Urban Stream Corridor Plans
• Zoning bylaws
• Zoning revisions

14. Have you used the biodiversity information, assistance, and training provided by the Estuary Program to help your municipality with any of the following **municipal policies or actions**? (please check all that apply)

n=228

- o Create a new Conservation Advisory Council or Conservation Board **18**
- o Adopt a local law that reduced impacts on natural areas (e.g., wetland or watercourse law, land clearing ordinance) **39**
- o Update zoning that conserves natural areas (e.g., conservation or cluster subdivisions, overlay zoning) **43**
- o Purchase property or development rights, create a dedicated open space fund, or a voter-approved open space fund **31**
- o I did not use the information to help with a municipal policy or action **75**
- o Other (please specify) (open-ended) **49**

• Although our CAC has made the case for zoning revisions to protect our water resource our actual success has not been as great as we hoped.
• Application for threatened stream water shed and special protection status wetlands
• Assist town to approve plan for conservation land

<ul style="list-style-type: none"> ● Began to study updating zoning - not yet accomplished!
<ul style="list-style-type: none"> ● Climate Action Plan
<ul style="list-style-type: none"> ● Code review and update
<ul style="list-style-type: none"> ● Created Watershed Alliance groups
<ul style="list-style-type: none"> ● Developed an Ag. plan
<ul style="list-style-type: none"> ● Drafted zoning updates but they have not yet been acted on by Town Board
<ul style="list-style-type: none"> ● Education and Support
<ul style="list-style-type: none"> ● Engage WVLT to do stewardship monitoring
<ul style="list-style-type: none"> ● GIS tool creation
<ul style="list-style-type: none"> ● Grant for improvement Habitat Assessment
<ul style="list-style-type: none"> ● Guidelines
<ul style="list-style-type: none"> ● Habitat map to help with planning
<ul style="list-style-type: none"> ● Helped convince planning board to limit development on a major open space parcel
<ul style="list-style-type: none"> ● Helped with my joint application to the ATC to be designated, with the Town of Pawling, an AT Community
<ul style="list-style-type: none"> ● Hudsonia reports have been very useful as source material and an outline for more intensive study of biodiversity. The trainings greatly enhance the knowledge and field experience of SUNY students interning with the Environmental Commission
<ul style="list-style-type: none"> ● I am on an advisory committee so I cannot help adopt a law, only draft and recommend it. We drafted and recommended a Water Resources Protection Law which is going for its second public hearing shortly.
<ul style="list-style-type: none"> ● I have used my training to bring to non-municipal entities the information needed to procure/save land along the river there by safeguarding natural resources as well as historic areas.
<ul style="list-style-type: none"> ● I keep trying w/ planning bd
<ul style="list-style-type: none"> ● Implementation of habitat assessments during planning process
<ul style="list-style-type: none"> ● Improve PB decisions.
<ul style="list-style-type: none"> ● Influence parkland leaders
<ul style="list-style-type: none"> ● Information is used when working with landowners, not municipalities
<ul style="list-style-type: none"> ● Inter-municipal Watershed Agreement
<ul style="list-style-type: none"> ● Maps - attempted CAC
<ul style="list-style-type: none"> ● Not yet...
<ul style="list-style-type: none"> ● Open space inventory

<ul style="list-style-type: none"> • Planning a preserve area with trail and education about unique habitat
<ul style="list-style-type: none"> • Provide zoning recommendations to specific communities for projects I've been involved with
<ul style="list-style-type: none"> • Review current Zoning regs
<ul style="list-style-type: none"> • To try to mitigate the chasm of disconnect between the Environmental Board and both Planning Board and Town Board used info for planning
<ul style="list-style-type: none"> • Used the Trees for Tribes Program
<ul style="list-style-type: none"> • Used to propose a municipal tree ordinance that was NOT approved
<ul style="list-style-type: none"> • We successfully testified against an action to create an artificial wetland through DOT in a natural wetland of a local park. We were unsuccessful in blocking further development near a habitat where sedge wrens had been identified.

15. Have you used the biodiversity information, assistance, and training provided by the Estuary Program to help your municipality with any of the following **municipal procedures** to reduce negative impacts to habitats and natural areas? (please check all that apply)

n=223

My municipality...

o requests habitat and wildlife information at the beginning of any project review, including queries to the NY Natural Heritage Program

56

o has standardized procedures for wildlife and habitat information from applicants (e.g., habitat assessment guidelines, standards for environmental review)

30

o regularly conducts on-site visits and/or habitat assessments for proposed projects **73**

o uses publically-available information (e.g., national wetland inventory maps, aerial photos, soil maps) to inform project review

96

o uses existing habitat maps to inform project review

64

o is more likely to suggest changes in proposed projects

77

o uses conservation strategies to manage parks and other municipal lands (e.g., allowing deer hunting, restoring stream buffers, changing mowing regimes for grassland-breeding birds)

38

o I did not use the information to help with a municipal procedure

53

o Other (please specify) (open-ended)

24

<ul style="list-style-type: none"> • Bringing players together to save natural resources for the health and well-being of the people.
<ul style="list-style-type: none"> • Checking local waterways
<ul style="list-style-type: none"> • Develop open space plan and acquire lands/easements to protect open space
<ul style="list-style-type: none"> • Developing inter-municipal agreements
<ul style="list-style-type: none"> • Does not apply, (need a N/A)
<ul style="list-style-type: none"> • For a public review or open house
<ul style="list-style-type: none"> • Helped municipalities examine their town code for Better Site Design techniques
<ul style="list-style-type: none"> • I don't know
<ul style="list-style-type: none"> • I have done this, but not with my municipality but for individual restoration and planning projects
<ul style="list-style-type: none"> • I keep trying w/ planning board
<ul style="list-style-type: none"> • Planning board is more receptive to conservation board comments
<ul style="list-style-type: none"> • See previous question
<ul style="list-style-type: none"> • Uncertain if the town (Saugerties) made any changes due to our BAT because I moved before the digitized map was done
<ul style="list-style-type: none"> • We are in the process of changing some procedures to pay more attention to habitats.
<ul style="list-style-type: none"> • We are starting to provide input but the board is bogged down with so many financial issues right now
<ul style="list-style-type: none"> • We have, in the Conservation subdivision law that we passed and in our proposed water resources protection law provided that the appropriate committees which review and pass on project plans should do all of the first 6 items on this list.
<ul style="list-style-type: none"> • We tried and the planning board is a little better, but not overwhelmingly so
<ul style="list-style-type: none"> • We're working on the managing parks bit...

- Wetlands & watercourse law included protection of habitat diversity

16. Please briefly describe a personal "success story" where you believe you made a significant contribution to habitat conservation and/or improved land-use planning in your community. (open-ended) **n=92 (please see page 38 for answers)**

17. If you haven't used information or tools from the Estuary Program, why not? (please check all that apply) [If the last option ("I did not use...") was chosen for all three of 13, 14 and 15, ask the following]

	n=23
<input type="radio"/> I am not or no longer on a municipal board or commission	8
<input type="radio"/> I didn't understand the information	1
<input type="radio"/> I didn't know how to use the information	0
<input type="radio"/> I need more assistance from the Estuary Program to apply what I learned	0
<input type="radio"/> I haven't had the time	1
<input type="radio"/> I haven't had the opportunity	6
<input type="radio"/> I think my municipality needs funding	0
<input type="radio"/> I think my municipality needs more resources (e.g., staff, equipment, etc.)	1
<input type="radio"/> I lack support from my colleagues/peers on my board or commission	2
<input type="radio"/> I lack support from elected officials in my municipality	6
<input type="radio"/> I lack support from town staff or consultants (e.g., engineer, attorney, planner)	1
<input type="radio"/> I do not think it is important to conserve natural areas and wildlife	0
<input type="radio"/> I think the recommended actions will result in too many restrictions for landowners and the community	2
<input type="radio"/> Other (please specify) (open-ended)	5

• It is not my position to weigh in on those topics.
• No longer work in the field
• See the answer to the previous question.
• The county does not have authority over land uses
• Used in my work instead

18. Have you shared the information or materials you received from the Estuary Program with others? (please check all that apply)

n=214

- o With members of my board, commission, or committee **137**
- o With members of other Town boards, commissions, or committees **95**
- o With Town Supervisor or Mayor **73**
- o With others in my organization (e.g., co-workers or volunteers) **98**
- o With professional colleagues or people outside my organization **88**
- o With neighboring communities **44**
- o With friends or family **87**
- o With others (please specify) (open-ended) **32**

• Easement landowners
• Fire Dept. highway dept
• Land Trust board
• Local high school research class
• My parish in its decisions on use of its 15 acres on the Hudson
• Nypf, local library, town
• Our local landowners organization
• Students in earth science class
• SWCD, EMC and WQC members
• The public
• Those affected by it
• Whenever it is possible to introduce the subject into conversation
• Work In Progress: Public Library shelf dedicated to Enviro matters

- o No (please specify why not) (open-ended) **11**
 - I offered, no one asked.

19. Have you recommended the Estuary Program events or assistance to someone else? (please check one)

n=198

- o Yes 173
- o No 25

20. The following are other trainings and workshops that provide information about land-use decisions to protect natural resources. Please let us know if you have attended any of the following: (please check all that apply)

n=213

- o Pace Land-Use Leadership Alliance (LULA) Training 73
- o Hudson River National Estuarine Research Reserve workshops 42
- o Cornell Cooperative Extension workshops 97
- o County Soil and Water Conservation District workshops 55
- o County or Planning Federation workshops 84
- o Other (please specify) ([open-ended](#)) 31

• American Planning Association, NY Planning Federation
• DEC Workshops
• DOS trainings
• ELLA
• ELLA Workshops
• ELLA workshops and training programs
• ELLA,
• EPA water inventory free ones at CGCC
• HRWA
• Hudson River Watershed Alliance
• Invasive Species mapping
• Land use mentoring event at rcc, rockland leadership academy
• Laura's workshops
• Municipal officials Association workshops
• NY Assoc of Towns
• NYS Urban and Forestry Conferences and ReLeaf workshops
• Stormwater seminars, collect courses
• Teatown Preserve's ELLA

• Teatown's ELLA workshops, LTA Rally workshops
• Teatown's Environmental Leaders Learning Alliance
• Various national conferences
• Watershed Roundtables
• Webinars and online training

About Your Municipality

21. How many hours per week is your town hall open? (please check one) **n=177**
- o Less than 10 hours **5 (2.8%)**
 - o 11-20 hours **15 (8.5%)**
 - o 21-40 hours **110 (62.1%)**
 - o More than 40 hours **30 (16.9%)**
 - o Don't know **17 (9.6%)**

22. Does your municipality staff the following positions? (please check all that apply)

	Staff (full/part time)		
	Y	N	Don't know
a. Planner n=151	54 (35.8%)	82 (54.3%)	15 (9.9%)
b. Wetland inspector n=145	18 (12.4%)	114 (78.6%)	13 (9.0%)
c. Biologist/Ecologist	5	119	19

n=143	(3.5%)	(83.2%)	(13.3%)
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	Consult as needed		
	Y	N	Don't know
a. Planner n=119	99 (83.2%)	12 (10.1%)	8 (6.7%)
b. Wetland inspector n=129	63 (48.8%)	39 (30.2%)	27 (20.9%)
c. Biologist/Ecologist n=132	63 (47.7%)	37 (28.0%)	32 (24.2%)

23. Does your municipality use computer-based mapping (such as GIS) in land-use or conservation planning review? (please check one)

n=174

- Yes **101**
(58.0%)
- No **41**
(23.6%)
- Don't know **32**
(18.4%)

24. Please let us know how much you agree or disagree with the following statements: (please check one per row)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
e. My municipality has capable leadership. n=177	14 (7.9%)	19 (10.7%)	59 (33.3%)	53 (29.9%)	32 (18.1%)
f. My municipality's boards have a high rate of turn-over.	19 (10.9%)	71 (40.6%)	56 (32.0%)	26 (14.9%)	3 (1.7%)

n=175					
g. My municipal elected officials and I work well together. n=173	7 (4.0%)	15 (8.7%)	55 (31.8%)	71 (41.0%)	25 (14.5%)
h. Residents are engaged in municipal issues and decision-making. n=176	15 (8.5%)	33 (18.8%)	47 (26.7%)	65 (36.9%)	16 (9.1%)

25. How has the willingness to conserve natural areas and wildlife changed in your community over the last 5 years? (please check one)

n=178

- Greatly increased **8 (4.5%)**
- Increased **85 (47.8%)**
- No change **40 (22.5%)**
- Decreased **23 (12.9%)**
- Greatly decreased **5 (2.8%)**
- Don't know **17 (9.6%)**

25a. Please explain your answer: (open ended) **n=125 (please see page 46 for answers)**

26. My municipality has adequate plans, policies, and procedures in place to conserve habitat and biodiversity. (please check one)

n=177

- Strongly disagree **20 (11.3%)**
- Disagree **54 (30.5%)**
- Neutral **42 (23.7%)**
- Agree **42 (23.7%)**

- o Strongly agree 9
(5.1%)
- o Don't know 10
(5.6%)

27. Please rate the potential barriers to adopting plans, policies, and procedures in your municipality to conserve habitat and biodiversity. (please check one per row)

	Definitely not at all a barrier	Probably not a barrier	Neutral	Probably a barrier	Definitely a barrier
a. Lack of support from local residents n=174	10 (5.7%)	42 (24.1%)	42 (24.1%)	61 (35.1%)	19 (10.9%)
b. Lack of support from local leaders n=173	7 (4.0%)	41 (23.7%)	35 (20.2%)	55 (31.8%)	35 (20.2%)
c. Not enough residents willing to fill volunteer positions on boards/commissions/committees n=172	8 (4.7%)	41 (23.8%)	40 (23.3%)	51 (29.7%)	32 (18.6%)
d. Inadequate resources to implement and/or enforce plans, policies, and procedures n=169	7 (4.1%)	23 (13.6%)	34 (20.1%)	66 (39.1%)	39 (23.1%)
e. Local politics n=174	4 (2.3%)	18 (10.3%)	41 (23.6%)	57 (32.8%)	54 (31.0%)
f. Lack of funding n=171	3 (1.8%)	9 (5.3%)	35 (20.5%)	63 (36.8)	61 (35.7)
g. Other (please specify) (open-ended) n=17	0 (0%)	0 (0%)	5 (29.4%)	2 (11.8%)	10 (58.8%)

- | |
|--|
| <ul style="list-style-type: none"> ● Active opposition, long-term |
| <ul style="list-style-type: none"> ● Apathy |

<ul style="list-style-type: none"> ● Biodiversity is a minor consideration compared to profit-motivated interests
<ul style="list-style-type: none"> ● Conflict with property rights
<ul style="list-style-type: none"> ● Control by a few self-serving individuals
<ul style="list-style-type: none"> ● Corporate influence
<ul style="list-style-type: none"> ● Development and jobs are priority during the recession
<ul style="list-style-type: none"> ● Elected officials do not take advantage of so many educational opportunities that are offered
<ul style="list-style-type: none"> ● ignorance
<ul style="list-style-type: none"> ● inertia of rest
<ul style="list-style-type: none"> ● Lack of help from state agencies
<ul style="list-style-type: none"> ● Lack of understanding about why biodiversity and habitat are important for people and communities.
<ul style="list-style-type: none"> ● Length of time and attention span issues
<ul style="list-style-type: none"> ● Loss of property tax base
<ul style="list-style-type: none"> ● Many critics but (ha ha) not many volunteers!
<ul style="list-style-type: none"> ● Mixed motivations of residents
<ul style="list-style-type: none"> ● Never ratified Comp. Master Plan New mp plan not adopted by new admin
<ul style="list-style-type: none"> ● Organizational/structural problems with implementation and success
<ul style="list-style-type: none"> ● Outdated Comprehensive Plan
<ul style="list-style-type: none"> ● Perception that conservation negates economic development
<ul style="list-style-type: none"> ● Preference for tax revenue over habitat
<ul style="list-style-type: none"> ● Republicans are heavily pushing gas hydro-fracking, while Democrats are more likely to insist on more adequate health and environmental protection regulations be adequate before allowing the practice to begin here.
<ul style="list-style-type: none"> ● Required time
<ul style="list-style-type: none"> ● The time constraints to review town Code and enhance sustainable development concepts
<ul style="list-style-type: none"> ● The town chose an incompetent leader for the CAC, so the CAC is not functional at this time. However we have just begun Comp. Planning again with some good people.
<ul style="list-style-type: none"> ● Town is mostly built out. Application of new development regulations have limited

impact
<ul style="list-style-type: none"> • Understanding is a process
<ul style="list-style-type: none"> • Very vocal small group who has strong press and internet connections
<ul style="list-style-type: none"> • Village and Town boards/commissions/committees compete for volunteer positions
<ul style="list-style-type: none"> • We were making great progress until last year; need Habitat Assessment Guidelines; wetlands inspector, biologist, geologist
<ul style="list-style-type: none"> • Zoning conflicts such as required parking often create loss of habitat that are obsolete planning

28. Is it realistic to expect that your municipality will take additional steps within the next five years to conserve habitats and biodiversity? (please check one)

n=177

- | | |
|--------------------------------------|-----------|
| <input type="radio"/> Definitely not | 5 |
| (2.8%) | |
| <input type="radio"/> Probably not | 35 |
| (19.8%) | |
| <input type="radio"/> Neutral | 22 |
| (12.4%) | |
| <input type="radio"/> Probably yes | 80 |
| (45.2%) | |
| <input type="radio"/> Definitely yes | 22 |
| (12.4%) | |
| <input type="radio"/> Don't know | 13 |
| (7.3%) | |

29. How would you rate the condition of your community's natural resources (e.g. forests, wetlands, and streams)? (please check one)

n=177

- | | |
|----------------------------|-----------|
| <input type="radio"/> Poor | 8 |
| (4.5%) | |
| <input type="radio"/> Fair | 28 |
| (15.8%) | |
| <input type="radio"/> Good | 66 |
| (37.3%) | |

- o Very good 51
(28.8%)
- o Excellent 20
(11.3%)
- o Don't know 4
(2.3%)

30. How has the condition of your community's natural resources (e.g. forests, wetlands, and streams) changed over the last ten years? (please check one) **n=177**

- o Much better 2
(1.1%)
- o Somewhat better 38
(21.5%)
- o About the same 71
(40.1%)
- o Somewhat worse 50
(28.2%)
- o Much worse 5
(2.8%)
- o Don't know 11
(6.2%)

31. Does your municipality include natural resource conservation strategies in its comprehensive plan? (please check one)

n=177

- o Yes 127
(71.8%)
- o No 14
(7.9%)
- o Don't know 24
(13.6%)
- o Not applicable; our municipality does not have a comprehensive plan 12
(6.8%)

About Your Role in Land-use or Conservation Planning

This section asks questions about your role in land-use or conservation planning.

- If you work(ed) for or represent(ed) an organization (e.g., land trust, consulting firm) AND you are/were on a municipal board, commission, or committee, please answer the following questions from the point of view of that **municipal role**.
- If you are on more than one municipal committee, please choose the one that **requires the most time**.
- The following questions are written in present tense for clarity, but please respond even if you held the position in the past.

32. Please identify for which municipal role you are answering these questions (choose only one):

	n=157
o Town board, village board, city council (5.1%)	8
o Planning board (30.6%)	48
o Zoning board of appeals (1.3%)	2
o Conservation advisory council/Environmental commission (40.1%)	63
o Open space committee (7.6%)	12
o Comprehensive/Master plan committee (3.2%)	5
o Other municipal board, commission, or committee (e.g., tree commission) (please specify) (open-ended) 19 (12.1%)	

• Architecture review
• As a local planner
• Cemetery committee
• IDA
• Scenic Hudson Land Trust

• Significant Environmental Areas Mgt. Appeals Bd.
• Town of Red Hook Tree Preservation Commission
• Zoning Review Committee

33. On average, how often does your board, commission, or committee meet? (please check one)

	n=156
o Never (1.3%)	2
o Less than once a month (10.3%)	16
o Once per month (67.3%)	105
o Twice per month (18.6%)	29
o 3-5 times per month (1.9%)	3
o More than 5 times per month (0.6%)	1

34. About how many hours per month do you spend on your role in land-use or conservation planning? (Include time spent in preparation, site visits, meetings, etc.) (please check one) **n=155**

o None (3.2%)	5
o 1-5 hours (46.5%)	72
o 6-10 hours (31.6%)	49
o 11-20 hours (12.3%)	19

- o 21-40 hours **7**
(4.5%)
- o More than 40 hours **3**
(1.9%)

35. Please let us know how much you agree or disagree with the following statements:
(please check one per row)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	I'm not on a board/commission/committee
a. Overall, my municipal board/commission/committee has enough members to carry out its goals. n=165	16 (9.7%)	29 (17.6%)	17 (10.3%)	68 (41.2%)	23 (13.9%)	12 (7.3%)
b. My municipal board/commission/committee colleagues and I work well together. n=165	5 (3.0%)	11 (6.7%)	11 (6.7%)	86 (52.1%)	40 (24.2%)	12 (7.3%)
c. My municipal board/commission/committee colleagues trust each other. n=165	4 (2.4%)	15 (9.1%)	20 (12.1%)	80 (48.5%)	34 (20.6%)	12 (7.3%)
d. My municipal board/commission/comm	10 (6.1%)	27 (16.5%)	57 (34.8%)	47 (28.7%)	11 (6.7%)	12 (7.3%)

ittee colleagues trust our municipal elected officials. n=164						
--	--	--	--	--	--	--

36. In the course of your land-use or conservation planning work, how often do you interact with the following? (please check one per row)

	Never	Rarely	Sometime s	Often	Very often
a. Town board, village board, or city council n=192	7 (3.6%)	34 (17.7%)	72 (37.5%)	53 (27.6%)	26 (13.5%)
b. Conservation advisory council, board or environmental commission n=181	24 (13.3%)	22 (12.2%)	46 (25.4%)	35 (19.3%)	54 (29.8%)
c. Planning board n=183	15 (8.2%)	27 (14.8%)	53 (29.0%)	39 (21.3%)	49 (26.8%)
d. Zoning board of appeals n=179	39 (21.8%)	61 (34.1%)	46 (25.7%)	26 (14.5%)	7 (3.9%)
e. Other municipal committees (e.g. comprehensive plan, trails, open space) n=180	24 (13.3%)	33 (18.3%)	79 (43.9%)	35 (19.4%)	9 (5.0%)
f. Neighboring municipal governments n=188	31 (16.5%)	71 (37.8%)	69 (36.7%)	12 (6.4%)	5 (2.7%)
g. New York State Department of Environmental Conservation n=188	11 (5.9%)	54 (28.7%)	73 (38.8%)	39 (20.7%)	11 (5.9%)
h. Conservation organizations (e.g., watershed alliance, environmental group) n=187	18 (9.6%)	42 (22.5%)	66 (35.3%)	38 (20.3%)	23 (12.3%)
i. Land trusts	24	43	68	26	21

n=182	(13.2%)	(23.6%)	(37.4%)	(14.3%)	(11.5%)
j. Universities and colleges n=176	51 (29.0%)	62 (35.2%)	41 (23.3%)	14 (8.0%)	8 (4.5%)
k. Other (please specify) (open-ended) n=18	5 (27.8%)	3 (16.7%)	1 (5.6%)	5 (27.8%)	4 (22.2%)

<ul style="list-style-type: none"> ● Building Dept.
<ul style="list-style-type: none"> ● CCE
<ul style="list-style-type: none"> ● Cornell Coop. Ext. Dutchess Co.
<ul style="list-style-type: none"> ● Cornell Coop. Extension
<ul style="list-style-type: none"> ● Hudsonia
<ul style="list-style-type: none"> ● Investors
<ul style="list-style-type: none"> ● Local news sources/social media
<ul style="list-style-type: none"> ● Municipal officials
<ul style="list-style-type: none"> ● NYC DEP & HRWA
<ul style="list-style-type: none"> ● Other NGOs – Housing groups, workforce development, arts, etc. And developers and property owners.
<ul style="list-style-type: none"> ● Our CAC tries to remain active but because our input is not sought or used much by our Town and Planning boards, the members don't feel we can make much difference.
<ul style="list-style-type: none"> ● Planning department
<ul style="list-style-type: none"> ● Professional colleagues
<ul style="list-style-type: none"> ● Teatown, trees for tribs
<ul style="list-style-type: none"> ● Too soon to tell
<ul style="list-style-type: none"> ● Town attorney and engineer
<ul style="list-style-type: none"> ● Town engineer, town planning consultant
<ul style="list-style-type: none"> ● Zoning Code Review Committee has met for 3 or 4 years; Town Board unlikely to adopt its inclusively-created recommendations

37. How important were the following to the time and attention given to habitat conservation by your board/ commission/committee or organization/department? (please check one per row)

	Not at all important	Slightly important	Somewhat important	Important	Very important
a. Political pressure n=178	61 (34.3%)	32 (18.0%)	35 (19.7%)	33 (18.5%)	17 (9.6%)
b. Interests of board/ commission/committee chair or executive director n=177	20 (11.3%)	20 (11.3%)	35 (19.8%)	62 (35.0%)	40 (22.6%)
c. State or federal regulations n=177	25 (14.1%)	23 (13.0%)	45 (25.4%)	56 (31.6%)	28 (15.8%)
d. Vocal community members or groups n=179	20 (11.2%)	32 (17.9%)	48 (26.8%)	60 (33.5%)	19 (10.6%)
e. Vocal board member n=175	27 (15.40%)	29 (16.6%)	51 (29.1%)	50 (28.6%)	18 (10.3%)
f. Interests of project sponsor or board of directors n=170	41 (24.1%)	26 (15.3%)	48 (28.2%)	37 (21.8%)	18 (10.6%)
g. Personal interest n=175	8 (4.6%)	17 (9.7%)	31 (17.7%)	54 (30.9%)	65 (37.1%)
h. Priority in existing plan or organizational mission n=175	13 (7.4%)	26 (14.9%)	46 (26.3%)	63 (36.0%)	27 (15.4%)
i. Strong partnerships n=166	35 (21.1%)	25 (15.1%)	31 (18.7%)	50 (30.1%)	25 (15.1%)
j. Other (please specify) (open- ended) n=6	1 (16.7%)	0 (0%)	2 (33.3%)	1 (16.7%)	2 (33.3%)

<ul style="list-style-type: none"> • Biodiversity training of members
<ul style="list-style-type: none"> • I don't know what "strong partnerships" means.
<ul style="list-style-type: none"> • I don't understand 'personal interest'.
<ul style="list-style-type: none"> • It's our mission
<ul style="list-style-type: none"> • N/A
<ul style="list-style-type: none"> • Na
<ul style="list-style-type: none"> • Not on a board--I interact with them

• Old boys network & friends
• Our group is formed of three core employees, together we reflect on the ecological and cultural landscape around us and decide on priorities.
• Overlap with recycling committee - composting, leaf mulching
• Speaking for land use boards in general
• That was a very vague question.
• This is what the CAC does
• Vocal Board members and development project sponsors too important

38. How often do you deal with the following tasks in your land-use or conservation planning role? (please check one per row)

	Never	Every few years	Yearly	Monthly
a. Zoning amendments or updates n=175	64 (36.6%)	65 (37.1%)	28 (16.0%)	18 (10.3%)
b. Comprehensive plan development or update n=174	44 (25.3%)	101 (58.0%)	15 (8.6%)	14 (8.0%)
c. Open space plan development or implementation n=170	58 (34.1%)	57 (33.5%)	29 (17.1%)	26 (15.3%)
d. Site plan n=175	39 (22.3%)	15 (8.6%)	22 (12.6%)	99 (56.6%)
e. Subdivision review n=170	50 (29.4%)	18 (10.6%)	25 (14.7%)	77 (45.3%)
f. Natural resource laws or ordinances (e.g., steep slope, wetland laws) n=168	45 (26.8%)	60 (35.7%)	40 (23.8%)	23 (13.7%)
g. Environmental review (e.g., SEQR) n=170	38 (22.4%)	24 (14.1%)	33 (19.4%)	75 (44.1%)
h. On-site habitat assessments n=165	36 (21.8%)	36 (21.8%)	44 (26.7%)	49 (29.7%)
i. Habitat mapping n=169	62 (36.7%)	52 (30.8%)	23 (13.6%)	32 (18.9%)
j. Public information campaigns	51	48	39	23

n=161	(31.7%)	(29.8%)	(24.2%)	(14.3%)
k. Other (please specify): (open-ended)	4	4	1	2
n=11	(36.4%)	(36.4%)	(9.1%)	(18.2%)

<ul style="list-style-type: none"> • Appropriate tree species recommendations for various public planting spaces and private development projects
<ul style="list-style-type: none"> • Because of my position in the community I try to keep my fingers on the pulse of all things happening at all times. Sometimes not being governed by committee rules can work in your favor. There are far too few enforcement people to cover most areas not to mention reviewing environmental issues
<ul style="list-style-type: none"> • Dysfunctional CAC/Burn out
<ul style="list-style-type: none"> • Field assessments; management plans
<ul style="list-style-type: none"> • I am liaison between Town Board and Planning Board
<ul style="list-style-type: none"> • I created a brochure on opening a new business and got approval to distribute it
<ul style="list-style-type: none"> • I spend class time speaking of conservation issues when possible, concerning specifically CA
<ul style="list-style-type: none"> • I'm not on the board anymore but when I was we were engaged in mapping and working on the master plan and the open space plan, I do not think these things are done, I'm not sure how much review is on-going now.
<ul style="list-style-type: none"> • Internships
<ul style="list-style-type: none"> • My role is primarily educating and organizing, watchdogging developments, and performing my own planning related to watersheds.
<ul style="list-style-type: none"> • N/A
<ul style="list-style-type: none"> • Not yet relevant
<ul style="list-style-type: none"> • On-going education on water quality
<ul style="list-style-type: none"> • Our CAC put a lot of effort into a new tree law but it was not implement
<ul style="list-style-type: none"> • Retired
<ul style="list-style-type: none"> • Suspect of motives
<ul style="list-style-type: none"> • The Dover CAC has not commented on significant land use decisions: not enough members
<ul style="list-style-type: none"> • There is no conservation planning function in town

- Time spent on habitat assessments and mapping varies from year to year depending on project. Public information campaigns are more than yearly but less than monthly
- We meet monthly for these and other things

39. Over the past 5 years, how has the demand for natural resource information to support planning and decision-making in your municipal board/commission/committee or organization/department changed? (please check one)

n=188

- | | |
|---------------------|------------|
| o Greatly decreased | 3 |
| (1.6%) | |
| o Decreased | 12 |
| (6.4%) | |
| o No change | 51 |
| (27.1%) | |
| o Increased | 106 |
| (56.4%) | |
| o Greatly increased | 16 |
| (8.5%) | |

40. Over the past 5 years, how have resources (e.g., budgets, volunteers, or information) available to your municipal board/commission/committee or organization/department changed? (please check one)

n=188

- | | |
|---------------------|-----------|
| o Greatly decreased | 11 |
| (5.9%) | |
| o Decreased | 66 |
| (35.1%) | |
| o No change | 68 |
| (36.2%) | |
| o Increased | 34 |
| (18.1%) | |

- o Greatly increased
(4.8%)

41. How much of a priority are the following issues to your board/commission/committee or organization/department? (please check one per row)

	Very low	Low	Medium	High	Very high
a. Wildlife habitat loss n=185	7 (3.8%)	21 (11.4%)	58 (31.4%)	50 (27.0%)	49 (26.5%)
b. Loss of forests n=185	5 (2.7%)	26 (14.1%)	49 (26.5%)	56 (30.3%)	49 (26.5%)
c. Wetland loss n=183	4 (2.2%)	23 (12.6%)	27 (14.8%)	68 (37.2%)	61 (33.3%)
d. Declining stream health n=183	8 (4.4%)	18 (9.8%)	43 (23.5%)	56 (30.6%)	58 (31.7%)
e. Hudson River shoreline management n=167	59 (35.3%)	31 (18.6%)	25 (15.0%)	35 (21.0%)	17 (10.2%)
f. Loss of farmland n=178	20 (11.2%)	29 (16.3%)	40 (22.5%)	40 (22.5%)	49 (27.5%)
g. Stormwater management n=183	6 (3.3%)	11 (6.0%)	41 (22.4%)	69 (37.7%)	56 (30.6%)
h. Low-impact development/green infrastructure n=182	12 (6.6%)	28 (15.4%)	57 (31.3%)	56 (30.8%)	29 (15.9%)
i. Climate change n=182	24 (13.2%)	38 (20.9%)	50 (27.5%)	38 (20.9%)	32 (17.6%)
j. Drinking water quality n=186	9 (4.8%)	18 (9.7%)	45 (24.2%)	49 (26.3%)	65 (34.9%)
k. Flooding n=184	7 (3.8%)	15 (8.2%)	36 (19.6%)	60 (32.6%)	66 (35.9%)
l. Environmental pollution n=183	9 (4.9%)	23 (12.6%)	57 (31.1%)	54 (29.5%)	40 (21.9%)
m. Invasive plants and animals n=184	16 (8.7%)	35 (19.0%)	56 (30.4%)	47 (25.5%)	30 (16.3%)
n. Loss of biodiversity	16	26	53	45	38

n=178	(9.0%)	(14.6%)	(29.8%)	(25.3%)	(21.3%)
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42. Where does your board/ commission/committee or organization/department get the natural resource information it uses in project review? (please check all that apply)

n=168

- o Report from applicant’s consultant about project **115 (68.5%)**
- o Report from town-sponsored consultant about project **96 (57.1%)**
- o Town engineer **82 (48.8%)**
- o Existing town plans or inventories, such as a Natural Resource Inventory or Open Space Plan **101 (60.1%)**
- o Conservation Advisory Council assessments or field visits **82 (48.8%)**
- o NY Natural Heritage Program data **69 (41.1%)**
- o County Planning Department or Environmental Management Council data **68 (40.5%)**
- o NYS Department of Environmental Conservation data **101 (60.1%)**
- o Web-based natural resource information (e.g., national wetland inventory maps, aerial photos, soil maps) **96 (57.1%)**
- o My board, commission, or committee doesn’t use natural resource information **5 (3.0%)**
- o My board, commission, or committee is not involved in project review **14 (8.3%)**
- o Other (please specify) (open-ended) **11 (6.5%)**

<ul style="list-style-type: none"> ● Cornell gis information from training
<ul style="list-style-type: none"> ● I checked other to apprise what we do or would look at if asked—and we do review larger land use projects for informational purposes mostly, due to low level of CAC membership
<ul style="list-style-type: none"> ● I provide some of this info
<ul style="list-style-type: none"> ● I’m not sure how this is used now
<ul style="list-style-type: none"> ● Internal GIS
<ul style="list-style-type: none"> ● Internal staff
<ul style="list-style-type: none"> ● Member personal knowledge, public hearings, site visits

<ul style="list-style-type: none"> • Our CAC only reviews a few big projects and our local boards don't formally request or use our input much if at all
<ul style="list-style-type: none"> • Personally sponsored consultants
<ul style="list-style-type: none"> • Town Board is rarely involved in project review but not never

43. What does your board/ commission/committee or organization/department need to better incorporate biodiversity in land-use or conservation planning? (please check all that apply) **n=168**

- o More staff or consultant support
64 (38.1%)
- o Better volunteer recruitment and retention **54 (32.1%)**
- o Greater coordination between boards/commissions/committees **79 (47.0%)**
- o Greater coordination between neighboring municipalities **55 (32.7%)**
- o Stronger and clearer mandate for your boards/commissions/committees **79 (47.0%)**
- o Better (or more) training and/or technical assistance **84 (50.0%)**
- o Increased access to available data **70 (41.7%)**
- o Increased access to technology **58 (34.5%)**
- o Greater commitment from leadership **84 (50.0%)**
- o Stakeholder engagement **53 (31.5%)**
- o Other (please specify) (open-ended) **8 (4.8%)**

• Agency attendance at meetings and hearings
• Be a part of the plan reviews and zoning codes
• I don't know what stakeholder management is
• Needs interest in conservation planning first
• Political will
• Some projects are small- build a patio, install a shed- but in a wetland or buffer. We need more info on how to work on the very small scale

About You

44. What was your age, in years, on your last birthday? (please check one)	n=202
o Less than 35 (7.9%)	16
o 35-44 (10.4%)	21
o 45-54 (15.8%)	32
o 55-64 (37.1%)	75
o 65-74 (21.3%)	43
o 75 or older (7.4%)	15
45. What is your gender? (please check one)	n=203
o Male (50.2%)	102
o Female (49.8%)	101

46. What is the highest level of formal education you have attained? (please check one)

n=202

- High school graduate 4
(2.0%)
- Some college or technical school **17 (8.4%)**
- Bachelor's degree 59
(29.2%)
- Graduate or professional degree **122 (60.4%)**

47. Is there anything else you would like to add? Please use this space to share any additional comments. (open-ended) n=68

- I am an ex officio member of a county level environmental commission. Our charge and scope is somewhat different from the municipal environmental commissions. Responses available to me did not necessarily reflect this different mission. I answered the best I could but our council does not do site plan review.
- Many of my answers show low involvement of my board because conservation is outside of the board scope. However, all but cursory conservation planning is not practiced by any land-use board. The planning board does not plan or participate in the comprehensive plan process; Seqra is the only typical environmental review and is invariably a negative declaration. Some minor environmental aspects are included in the town code. At one time a small group pushed through one open space acquisition but none has succeeded since or is contemplated. The boards were not involved. One major parcel is owned by the town - not included in the Biodiversity study area - biodiversity might be pushed as a factor in its development but politically difficult at best. Even the more enlightened politicians think of nature as a lawn. Thanks for your interest and excellent work.
- Your survey is too long.
- I have found that many excellent seminars, educational opportunities, etc. are predominantly attended by volunteers, board and committee members but very rarely, if not at all, by professional planners and consultants hired by municipalities. These professionals are typically the resources who greatly influence the direction and outcome of applications brought before them, but sadly may not be versed in and therefore may not apply the best practices and

principles as they apply to conservation, biodiversity, etc. Somehow, a more effective means should be formulated to reach out and connect with these influential and critical decision makers who could greatly benefit from the many excellent programs offered by state agencies, etc.

- Thank you for this reflective opportunity -
- Laura Heady led several very valuable public information sessions on the value of wetlands and also appeared as a key technical advisor in a film about wetlands that aired continuously while the Town of New Paltz was holding public hearings on a proposed wetlands ordinance. In this way much important information was shared through Public Access television on the importance of wetlands.
- I am generally a consultant who works for a municipality on specialized plans such as stream studies so I interact with municipalities differently than I would if I were on a Board or committee. I do think the 3 day biodiversity course has been helpful in my work as a landscape architect.
- I appreciate all the support the Estuary Program has provided in the past and look forward to working with folks in the future.
- Raising public awareness is a gradual educational process. Many residents have chosen to live in our town because of its rural qualities. We are fortunate to have little development pressure because of protective zoning. Zoning and land use planning have high priority in this town.
- This was a very comprehensive questionnaire. Gave me some thoughts regarding improvements to our program that I could be a part of.
- I believe most of our elected leaders and planning and zoning board members don't have enough knowledge or appreciation of the importance of biodiversity to people (including public health), the community, ecosystem services and economic vitality. More education and organizing could help this but time and energy of our CAC and other advocates is limited. Conserving biodiversity and habitat raises deep questions about the value of balancing human and economic priorities (including property rights, jobs etc.) vs. nature that are major barriers. I do think that many local leaders are more aware and more willing to support biodiversity conservation at least in principle than was the case 10-20 years ago, and I'm fairly certain that the work of HREP, Hudsonia and others at the regional scale is part of the reason. The conservation community can and needs to do more to work with hunting, fishing and other stakeholders that are sometimes viewed as more part of the community's mainstream than the way many view "environmentalists", to build consensus and articulate the clear links

between habitat conservation for sporting and recreation values and for deeper conservation reasons.

- May have to try to be involved in Environmental Commission again. Large wetland is being impacted and not protected...!! In spite of wording in planning documents; 'property rights' seem to trump community resource protection in many local projects. Very frustrating!
- My organization simply wouldn't be able to do the conservation work we do without Estuary Program technical assistance and grants! Thanks for the support!
- Probably the biggest obstacle to conservation planning lies with our tax assessor, who will not commit to giving a tax break to those who want to put their land into conservation easement or other conservancy program. His notion is that large tracts may sell for more and so have greater rather than lesser market value. But there is also an up swell of people who resent government interference in general, and this includes local government efforts at land use control. Also, mine is not a rich town, so there is opposition to spending public money and opposition to controls on development which diminish the possibility of industrial and commercial development which would provide jobs. In this regard there is a political and social division between the "newcomers" (broadly defined) and the "old-timers", the former generally being better off financially, better educated and better equipped to absorb the financial cost of conservation...not, for example, likely to lose their homes if taxes go up. The less well-to-do often say that committees like mine care more for environment than for people (you have probably had contact with a particularly vocal group of this kind, the Agenda 21 people). Their argument is not without justice. As a practical matter, people comfortably situated do tend to care more about their views than their neighbors jobs.
- It was difficult to answer some of the questions as I served on a municipal open space committee, a land trust organization and a volunteer watershed organization in two different municipalities. Each would require a different answer. Answers would be different from each perspective.
- I find it difficult to devote the time that is really needed to do a good job. I am also concerned about my "expertise" although I now know where to go for help.
- Hudsonia has provided valuable tools for planning review over the years.
- We are fortunate to have such opportunities and information that your organizations provide for our communities. I believe the outreach is most worthwhile and in a bit of time all communities will have the resources to provide information to make informed decisions for our communities. Much appreciation.
- We continually need science to strengthen our argument. In addition to workshops it would

be great if there were some way to share new findings - like the study that just said in areas where they cut trees for EAB, death rates increased. We need to share the studies themselves, not just summaries. It would also give us encouragement when things seem dire...

- This survey was a good follow-up to have taken the B-D course from the past.
- Currently, the major land use issue in Town relates to a major mining proposal where the NYS DEC has permitted a 150-year life-of-mine application in an area of identified habitat and open space significance. It is quite ironic that the town finds itself in the position of trying to uphold state planning and resource protection concerns in this circumstance.
- Always hear liability as reason for not doing something, but believe simply excuse. Court decisions have held Moodna is water of the state, so stream walks in Moodna are not subject to lawsuits by stream bank landowners. To large extent Moodna Creek coalition seems to be run by consultants in small group.
- Thanks for the information and thanks for asking about how it has helped.
- My community has no CAC-- The only reason one can ascertain for this is the presence of a Supervisor that continues to believe that the presence of a CAC would hinder Development. Consequently I have used the knowledge "I" have gained through various programs to bring to the Town attention adverse impacts of tire dumps, feral cats, and the like. Given concrete materials based on research backed with actual photographs has helped improve these areas. The Town seems to be open to the "Concerned Citizen" approach and has acted accordingly. Bringing "Players" together to talk about the best use of properties and looking for a Win win situation. Taking the time to ask a key question: "What are your Interest" (LULA) then using that information to find a compatible solution.
- We are a small community with few projects.
- Trees for Tribs Rules!!!
- I use a lot of what I have learned at Estuary Program trainings in my work as Land Steward at the Wallkill Valley Land Trust, particularly in preparing baseline documentation for properties the land trust accepts easements on. I am working to improve my mapping skills.
- These questions were hard to answer from my perspective. I have a strong environmental ethic and currently serve on a 5-member board where I am a minority of one. Previously we were making good progress, when the board composition was 3:2 -- now 1:4.
- Thank you Hudson River Estuary Program!
- We had a small committed group of volunteers who completed the biodiversity training, yet we have not formally presented the work to our town board. These volunteers are all very active but have not been able to coalesce to move biodiversity awareness forward.

- Thank you for the fine education, as only recently is this information available in school.
- Get the facts.
- To me, it is critical that commission/board members remain in their positions through full terms since we each help to educate each other, and though not all my Planning Board colleagues have been through the BAT 10 month course, the three of us who completed it have been concerted in disseminating the information to others. Put more simply, continuous turnover is deleterious and knowledge-sharing is essential.
- My responses are given as best estimates to current state of affairs w/ local govt. and allied commissions, etc. I have recently returned to my home region after working for 15 years in the Hudson Valley as a state conservation agency natural resource professional serving communities in the region. In that perspective, it will require more familiarity w/ the current operation of agencies, departments and personalities in the region to gain a deeper understanding of current state of affairs locally.
- Please keep up this work. Without your support in trainings, speaking to public and committees, the changes would be very slow if at all.
- DEC HREP training filled an educational gap that would not have been filled any other way for 99% of the people involved at the municipal and inter-municipal level. A need has arisen for more technical tools to update the in field data collecting so it stays relevant and up to date. Thank you.
- I could not answer some of the questions because I am not a member of any of the agencies etc. that the questions referred to. The questions should be numbered so I could explain this better. One question was illogical; the list of answers did not follow upon the query. I am sure I helped create or perhaps save policies, for example, but could not answer that particular question as specifically as requested. Some of the answers I gave were my estimation of what the agencies commissions did or accomplished, but they were not "my" bodies i.e. I was not a member. "Other" or "Not applicable" should be used more frequently; as well as a box for explaining each answer. "Estuary Program" was not explained, only what I got from it--I got some grants, too; does that count?
- As I've indicated I am not currently serving on a board. However I am an advocacy planner for a not for profit organization that interacts with many boards throughout the region.
- The code must be changed to promote conservation in a methodical way. Then the way projects in the municipalities in our area are conceived and presented must change. Instead of an engineer and project sponsor coming in with a plan according to how they read the code and the board saying what they think. The project sponsor/engineer should come in

with a survey map including contours, vegetation, wetland and water courses, and potential habitats. Then we collectively discuss the areas to avoid, and then they come back with a workable plan.

- Increasing awareness of biodiversity is a good thing. Education is important because we all need to be responsible citizens. I am concerned that an emphasis on achieving these goals via regulation only, will incur the law of unintended consequences. Meaning you might hurt the very things you are trying to protect. We should want to do the right thing without having so many laws.
- We need our Town Planner position filled. His assistance was invaluable and is sorely missed.
- The HREP staff have been a terrific resource for information to support public outreach.
- There is a lack of concern about the impacts of development to groundwater resources and insufficient protection of downstream flooding. All of the impervious coverage also reduces the recharge of water to the ground, decreasing the sustainability. The stormwater plans only address rate of discharge and not total discharge from the sites. This will deplete the resources and force communities to start importing water from outside of their communities. Right now we are just kicking that can down the road.
- Please realize that my responses are based primarily on my time served on the environmental commission over 6-7 years ago. They are out of date by now. While the Town Board was conservative and unwilling to learn, the planning board had an excellent chairwoman who was proactive about insisting on careful development.
- I very much value the programs that HREP offers. If my answers to questions do not reflect this it is only because I am in the natural resources profession and a former Hudsonia employee, so I personally don't learn that much from workshops/trainings, but I do learn some and I do know how much my colleagues learn from them. Thank you.
- I am always seeking more involvement from SUNY thank you so much for what you are doing. Where is the new wetlands map? Several years have gone by now...
- All of the preceding commission information applies to my past work on an environmental commission which I chaired from 2006-2010.
- Working constantly to get more peeps onto the CAC. Thru the AT Community Application process, local members of the Advisory Committee have become more invested in conservation and collaboration. My communication with them during the last six months, together with my reaching a broader audience in Noticing the upcoming EMC/CAC Annual Meeting, has resulted in a number of them indicating a willingness to become more involved. I think we are on the cusp of a ramp-up, with the support of the Town Board and Town Clerk.

Stay tuned.

- This was a pretty long survey that didn't really apply to my position. I stuck with it as long as I could, but didn't complete it. Hope that it is still usable.
- People who can devote more time than after their work hours. Persons who can be called upon to be really involved. Often people come and go, we need more steady concerned individuals.
- Keep up the good work!!!
- Some questions on questionnaire were not so clear as to what the answerer's role is --- for instance --- many people in the non-profits here are involved in planning decisions -- but a lot of these questions were directed at people who are on "official" municipal committees, etc... In my town, grassroots and non-profit participants in landscape preservation initiatives usually outnumber the official town staff. Despite perceived "fireworks", every 'save' has been a joint effort among residents and officials...
- These programs sponsored by Hudsonia and the NY State DEC are an invaluable resource in getting the word out on the importance to biodiversity in every community, no matter how urban or rural.
- We are a small town with limited resources but are lucky enough to have some volunteers in the community with expertise in environmental areas. there is limited development pressure at the present time so there hasn't been much of a need to review effect on environment/biodiversity.
- would love to have Hudsonia's support in preventing the loss of our very little open space here in Pleasantville
- As a ZBA member, we do not get involved in a lot of the items that are on this survey, most of the variances that are requested do not require that much research.
- The Hudson River Estuary Program is doing excellent work and while I am not personally involved at the municipal level, I have witnessed many other people being energized and helped by HREP in their efforts to promote more thoughtful planning in their communities.
- I didn't answer the last several sections because I am no longer involved with municipal boards. I didn't think they might be relevant to my present position on the Board of the Winnakee Land Trust (also serve on their Easement Committee and Drayton Grant Park Committee @ Burger Hill). Also a Board member of the Ralph T. Waterman Bird Club. If you would like, I could respond to the issues regarding the way that they pertain to Winnakee.
- Having the workshops and training offered through the HR Estuary Program definitely enhances the CAC's capacity to carry out its functions. It also provides an important link to

other groups and agencies with similar goals working in nearby communities.

- In our town, a recent change in Town Board composition has had a big impact on the priority given to habitat protection and sound land-use planning, and, through the Board's power of appointments, has had a negative effect on the composition of the environmental commission in terms of commitment, skill level, and volunteer time, (though the commission still retains a number of knowledgeable and committed members). This is not an uncommon problem, and underscores the importance of HREP and Hudsonia programs to train new board and commission members and raise the level of awareness of sound land-use planning where none previously existed. Free programs are particularly helpful because elected officials who do not understand the importance of sound land-use planning are less inclined to support allocation of funds for training.
- There appears to be a disconnect that the governing boards, , , , town boards. . . do not have a clue about biodiversity or why we protect. . . until the last years they are in office...the elected officials also will not spend money on sewer infrastructure because they do not get any glamorous press as they do when they put money into parks. . .
- Although, given our activity, we have not interacted so much with HREP as outreach recipients, I believe they have been very helpful, in an educational way, to others in our community
- I spent 9 years on our planning board. It is a learning curve as each project comes before us. Learning the town code is an on-going challenge. Making sure that a quality of life for the applicants especially relative to land conservation is of the highest regard. Laws that were formulated many years ago may not fit today's goals. Flexibility and a good working relationship is a must. The planning boards in the communities are the backbone to how a town can evolve.
- Re questions on condition of natural resources in community, recent storms have damaged significant areas of woodlands (all generally the same age), which explains answer. Generally the town is very proud of its natural heritage and has taken good care.
- The fear of getting sued over incursion on perceived property rights seems to be the primary reason for inaction to protect the environment at a local level.
- The work you do on biodiversity, habitat, watershed, etc. is superlative, as are your workshops and habitat surveys. But you need to provide municipal planning, zoning, and town boards with support to bridge the gap between information and practice!!! And go into all towns unasked, just as part of your work, to give the info. And workshops you do to citizens and schoolchildren!!! i don't have transportation on my own and i have missed most of your

workshops and trainings simply because i can't get there and you don't ever offer them in New Lebanon, Canaan, or chatham!!! Or if you had van service to get there--great!!!

- My community completed its first comprehensive plan in 1992. An update has been completed in 2011, but not adopted by the town board. Because 20 months have elapsed since the required public hearing, IT IS LESS LIKELY THAT IT WILL EVER BE ADOPTED!
- There may be more positives than I'm aware of, but... with the exception of one engineer in the town, people who love and care about the natural world are generally marginalized, and viewed as crack pots. Town staff and leaders are sufficiently concerned about legal penalties therefore reasonably attentive to the stormwater regs, but are skeptical of green infrastructure and generally risk adverse. They love all kinds of economic development and don't trust Cost of Community Service Studies or dot density maps. The property rights people consider habitat mapping an infringement of property rights, which makes mapping anything difficult.

12. What was the most important thing you learned from participating in the Estuary Program? (open-ended) **n=141**

- Distinctions and qualities of different areas, types of land areas. (Unfortunately, as I no longer work in the field, I have since forgotten!)
- Always consider the full set of requirements that a species need, and to use a system approach.
- I learned how to read the land around Woodstock. By identification of plants one can know what sort of soil is there. I learned how to identify some animal tracks too.
- Systematic analysis of habitat. The biodiversity program was a tremendous program, expertly and passionately taught; but not perfect. We had some less successful aspects - perhaps more related to our group dynamic and local organizations - that were nonetheless very instructive. Apart from the technical subject, my most important lesson was seeing how the participants either rose to the occasion or abdicated. I learned a lot about how a group succeeds or not and how to better see a path to success from the start. The program has probably changed with the times and with experience. At the time I felt hampered by the lack of GIS methods and by the limited portion of the course devoted to application to land-use planning. Local interest would have helped strengthen this aspect - not the fault of the instructors

- The resources and people available
- Information relating to biodiversity in land use planning.
- Community development and growth are inevitable, however, we must understand that there is a right way to accomplish established objectives by integrating the importance of sustained, balanced and smart growth which must take into account the preservation and conservation of our natural resources and biodiversity. In dealing with Town Boards, in general, many members are ignorant of the principles espoused by the Estuary program and therefore feel that Town Board members and Town Planning Consultants must also develop a more thorough understanding and appreciation of the concepts taught for the purpose of broader based integration of biodiversity principles in the local planning and development processes and initiatives.
- How others are coping, or not.
- That there is an skilled, informed and very personable local resource available for assistance in environmentally sound biodiversity planning
- Development of our Town Wide Biodiversity Method and associative public educational programs.
- How biodiversity concerns can influence land use decisions and recognition of biodiversity values can steer development away from sensitive areas
- The problems we face are not just ours - they are up and down the estuary.
- The 10-month biodiversity training brought together the skill set, resources, and field work, etc. that are critical for effective implementation. The GIS training provided better access to powerful tools.
- Learning about different habitat types, how to identify them in the field and remotely, using the Biodiversity Assessment tool.
- Tools to assist with community planning.
- Gathering good information before attending town meetings. Working with other concerned residents to inform decisions made by the town.
- Impact regarding development decisions and overall town wide protection plan
- It is a good program that I recommend to others.
- I've been working closely with program staff, using grants to support my work, and collaborating with program staff and others in the region on many projects and

programs since at least 2004. I also actively promote the program in educational events and other outreach and encourage others to take advantage of its resources. I'm not sure I can identify one most important thing I've learned from all this. It is a fantastic, very important program for our region and we're very lucky to have it.

- The overall importance of biodiversity and ways to reach favorable results in preserving biodiversity while still accommodating development.
- Specific habitat indicator species. Using soil data and maps to predict habitats.
- The need for Community support and Education.
- How to identify habitats remotely
- I had a strong conservation background already so the more important lessons for me were how to get things done, who is doing what, where to go for resources, understanding the roles of various organizations and agencies, etc. The LULA program sponsored the Estuary Program was also very helpful, since my prior experience with land use law was limited.
- Conservation's critical importance to the community and the wide range of resources available.
- Basic knowledge regarding the importance of habitat as an indicator of an area's environmental health.
- The different kinds of local natural environments. How to assess their characteristics. How to plan for local development that conserves these environments, and how difficult that planning is in the face of people's desire to control completely their own use of their own land, and in face of the community desire to "develop" and provide jobs.
- Conservation GIS
- Science is hard.
- Better understanding of maps
- Don't remember participating
- A multitude of important factors previously absent from local planning processes.
- There are many others with similar interests.
- I really needed a much stronger base of knowledge. Philosophically I was very a much there, but needed a better understanding of the science and the process for using the

information to be a more effective committee. It has also put me in the network so I know where to go for help. It bolstered by belief that everything is connected.

- How to incorporate and use the available biodiversity data in planning and mapping for site assessment and how to apply it to my work.
- Empowerment, that citizens make a difference. And there is a lot to be learned from the generosity and enthusiasm of Estuary staff. Without them, the message would get lost.
- Some specific conservation measures to suggest to boards in planning and review of applications for development.
- The importance the delicate balance between man and nature is to the health and stability of future generations
- Specific information about the habitats in my town.
- My participation in the 10 month BAT led to leading a NYC-wide ecological assessment in my current position.
- I learned a lot about the science that is behind some of the guidelines that we have been given. I learned to make better, science based arguments. The issues are that our town is quite developed already, and the current town and planning boards are very concerned about appearing to be unfriendly towards development. As long as they believe that environmental protections will hurt their tax base, it's hard to make a difference.
- How to engage others on this important topic and how to implement these practices
- It is seemingly easier to get things done when you have the knowledge that many other communities are trying to same things, and that you have the moral support of people from those communities. In other words, it's useful to know you are not alone.
- The relationship between municipal land decisions and the effect on the environment.
- Hudson Valley habitat types
- 1. Information available in the HR Biodiversity Manual 2. Map-reading clues to potential habitat locations
- That people like Laura Heady are a phone call away when I need help in understanding the related science and the legislation on issues related to biodiversity.
- After the Planning Board & Master Plan I was a municipal representative to the

Moodna Creek Coalition. The municipal planning board was dissolved. Efforts to take into account less impervious surface were barely successful. Legal counsel claimed a large parking lot next to the Moodna must be asphalted, even though the largest part, a church, was only used a couple of times a week. John Spear and myself finally got through a law permitting the board to reduce required parking by 25% if a bond were posted.

- Local planning boards let developers write the SEQRAs and don't have manpower to check on them. Multiple small applications have a cumulative effect which is often not taken into account.
- Consistently correct information presented in a timely fashion can influence the "Powers that be" regardless of the presence of actual committees for environmental issues.
- Looking at the mountaintop area where I reside and serve as the "larger" picture -not just the area where my Town is located. Also important for community analysis post Irene - flooding and floodplain issues.
- The online regional maps and mapping resources were outlined. Fascinating! I hoped to learn how to map a small site for tree varieties using GPS but did not; teach that and I'll be back!
- Hard to pin point one thing having worked for the Estuary Program for three years, but for me it was a better understanding of natural resource management, ecological restoration and conservation planning and all the different inter-related topics.
- How to use the Hudsonia Biodiversity Assessment Manual, and the usefulness of aerial photography.
- That the two dimensional landscape is alive -- a living landscape. Those muddy wetlands that seemed a barrier to walking in woods are vernal pools, valuable habitat.
- Actually not applicable to my experience with the Hudson River Estuary Program. As director and president of Hudson Basin River Watch for 20 years, with almost 15 years of grants and contracts. We jointly developed and presented training and guidance to hundreds of educators and citizen watershed groups in the Hudson Valley.
- I learned how little attention we had given to habitat protection in local land use decisions

- That people have to come together to make progress in dealing with our many environmental problems.
- Seeing the eels caught at Plum Point! Catching amphibians from within wetland pools! Holding them and taking pictures! Trying to understand what a mountain is, how its biodiversity operates, and trying to convey this evolving knowledge to other interested people! Trying ---
- What other towns are doing, and how to model ourselves after them, and try to convince our town leaders to do the same.
- That by working with a team in the town's Conservation Advisory Council we had a voice in deciding how new zoning laws, based on the town comprehensive plan, would be written, that included better land-use decisions along with introducing and strengthening the relationship that biodiversity has with land-use. With the training received were able to develop tools that helped us to accomplish direct results through a variety of methods, from developing a biodiversity map that would be used in planning board and town board decisions, to educating the town citizens to our presence, educational outings, email alerts re land-use options, invasive species, handling of meadows, etc. However, to me the most important task accomplished to date is that when there is a proposal for any major development (alas, not for minor), a biodiversity assessment must be made before any formal plan is submitted to the town for consideration. This is now part of our town law.
- How to analyze habitats and plan for their protection.
- Understanding of the number of different types of habitats in the area and characteristics of them.
- How Land Use decisions can be adjusted to better protect biodiversity in the community.
- Where to go for more technical assistance
- How passionate the leaders of the program are and how happy they are to spread the word.
- Balance is important and PRESERVATION is one factor in making intelligent decisions for my Community.
- Why biodiversity is important

- Be involved, trust the teachers
- Identifying likely habitat for a variety of ETR species, especially, in my community, Blandings turtle (*emys Blandingii*); the value of maintaining stream and wetland buffers; importance of keeping open space parcels as contiguous as possible; encouraging development into the most appropriate are on a parcel, based on a grid of environmental and economic factors; how to better employ certain language to educate the broader public about the importance of environmental protection and stewardship
- The importance of respecting all natural wetlands.
- The most valuable thing I learned was what resources were available to my municipality on biodiversity and land use planning.
- How better to work with gov't to encourage conservation dialogue and designs
- Current research and local land use parameters for biodiversity conservation, e.g. watershed preservation, ecosystem-based conservation, species buffer sizes
- Information about biodiversity in my area. Ideas on how to influence peers to use this information. Awareness of the level of development of my town vs. others in the area.
- The role of soil types was extremely important to my understanding, also the different legal tools for land use planning. But the biggest thing I learned was scientific data that was then able to be shared with officials and community members for planning an inter-municipal approach to water and biodiversity protection.
- That the biodiversity of the Hudson Valley is truly an amazing treasure worth preserving.
- Biodiversity Assessment Manual
- Relevance
- Why fragmenting habitat poses such a threat to biodiversity.
- How to participate more intelligently and effectively in conversations with people who are knowledgeable about the environment
- I gained knowledge that I could apply to my community and this knowledge also helps me when reviewing Environmental Impact Statements during the SEQRA process.
- The details about a variety wetland types.

- That there was a higher degree of public interest and concern than I previously knew
- Partnering with the Estuary Program has brought a wealth of knowledge to our county. The more information we can pass along to our landowners the better
- Trying to understand the dynamic of how to better achieve the goal of maintaining biodiversity - through education or regulation.
- Need for regional coordination and planning, and communication, to move forward more generally conservation efforts. Learn what others are doing and trying to do. Learn better scientific grounding for conservation values.
- The introduction to the people who form the wide network of human and information resources for environmental conservation, was the most important aspect of participation. Naturally the information was highly valuable, but personally knowing the individuals is more valuable.
- I have learned about amphibian migrations. I have also learned that there are different types of wetlands which provide habitat for a variety of flora and fauna and some which help purify water and mitigate flooding.
- How to apply the principals of sound preventative measures to protect biodiversity, water (wetland, streams, & rivers), wildlife habitat, trees, & slopes during land-use negotiations.
- How to convey the importance of conservation and biodiversity to municipal officials.
- I didn't do a biodiversity training, so I can't really answer the above questions. I have gone to meetings with estuary staff related to Green infrastructure and then I get email updates and grant announcements from estuary staff
- The principle of getting others - prospective opponents or conservative Town officials - to buy into the program for it to succeed. Unfortunately at the time that I was serving on the environmental commission in our town, that committee was pretty much ignored by the Town Board. They would request that we study a situation and make recommendations, but our efforts went into a file, often unread I suspect. The town wanted tax-rateables and did not want to discourage developers with environmental restrictions. Things were just beginning to get better when I stepped down, but though municipal officials have a much better attitude now, our town still has a way to go.

- I learned more about watersheds and maintaining and protecting them.
- How to "ground check" for the presence of wetlands.
- Learned about Hudsonia's Biodiversity training program and mapping efforts
- There is a vast amount of resources available to the communities within the region.
- The inter-dependencies of biodiversity
- The timing and weather conditions that promote "big night" migrations and the importance of road kill during those times.
- There are no simple solutions to protecting biodiversity, but balance between community development needs and biodiversity is essential.
- GIS skills
- more about the Hudson River (estuary)
- That we need to analyze the impacts of individual developments within the context of the broader habitat needs/conditions of the larger community.
- The need to listen to all stakeholders in order to better frame the questions, and where to go to get the answers
- Probably a culmination of all of the above.
- There are like-minded people around, i.e., those who value the natural world. And there are data, tools and training available to help them protect the natural world and explain to others why.
- Where to go for help and support.
- There is more work that needs to be done to protect our natural resources. One major problem right now are the plant and animal invasive species. There is more to learn about the problems and possible solutions.
- Knowledge: the importance of EVERY habitat (even if it's NOT a wetland, although wetlands are of particular value.) Skills: [Identifying habitats through plant species (I'm barely a novice, but...) and map-reading, analysis/correlation]
- The work is never finished and the Estuary Program is an important resource for keeping the work at the forefront for municipalities.
- Passion, energy, persistence, information, networking, and communication save the day!
- Value of contiguity of habitats

- The significance soil conditions, ground cover and topography all have to create areas of biodiversity for plant and animal life.
- Understanding natural systems and interactions within ecosystems
- I have not participated in any recent programs but am interested.
- Gained some knowledge in identifying specific habitat types
- That you have to speak up in your community!
- To look at the different items that come in front of our board in a more objective manner
- Many interesting aspects of biodiversity and habitat and how these considerations can be used for wise planning in development.
- Reinforced my grasp of the connections between the elements of the natural processes.
- Land use planning tools/ constructs related to biodiversity and open space
- The impact of development on habitat
- I've gained the most from listening to other people's experiences and stories regarding environmental protection. The most valuable program was the dual biodiversity and SEQRA presentation.
- That I am not alone in caring for biodiversity!!! That there is a wonderful network of colleagues all working together to promote biodiversity conservation as an important component of land use planning. How much work there still is to be done to educate our fellow citizens.
- I moved to the Hudson Valley in 2000 and needed to become familiar with habitats/species. The program helped me to accomplish that....which eventually led to my writing of the Milan Wetlands Protection Law.
- About some of the tools being used to identify and protect habitat and what other groups around the area are doing to involve the public in conservation issues.
- I cannot reduce what I learned to one important thing--everything I learned from HREP and Hudsonia programs and staff about biodiversity, about wetlands and waterbodies, about mapping, and about land-use planning tools has been critically valuable to the overall effectiveness of the environmental commission, to my participation on the Zoning Code Review Committee, to my leadership as Chair of the

environmental commission and my position as liaison to the Planning Board, as well as to my previous work as Deputy Supervisor. Municipalities in our area are incredibly fortunate to have these programs in place.

- How and why it is so important planning can be, with a focus on protecting our assets as well as biodiversity health to all
- We are a research group that collaborates with HREP on various projects, exchanging information and ideas. Their funding was crucial to the initial start of our program; since then we have exchanged data and ideas on various projects. We haven't really participated as trainees, so the above questions are hard to answer. I answered them in terms of 'what did we learn from the research that they funded?'
- How to use aerial maps to identify specific habitats.
- The larger context of the impact of our decisions, and the sometimes unique nature of the areas we must consider
- I've learned what is possible IF I can get local decision makers interested.
- About vernal pools
- The active support that is widely available in the Hudson Valley.
- The power of sharing information regionally. The program has done a remarkable job of building consciousness and knowledge regionally across municipal boundaries, creating an active cadre of well-informed individuals who are prepared to provide leadership on protecting biodiversity in their own communities, and an awareness of how that contributes to the whole region.
- I learned that New York state has significant resources to help towns with environmental preservation and protection, but that there is a huge disconnect, both in utilizing these resources and in supporting local municipalities and their various board members in using them. I have felt very little support for making positive changes and conveying the importance and value of the info. i learned to my municipality and its board members. I felt that estuary program staff did not understand or accept how difficult it is to reach board members who do not already see the value in conservation and were not willing to help.
- Political dimensions
- Interdependence of planning/zoning decisions on habitat health & DIVERSITY.

- How to communicate with local officials and the community
- There is a network of experts available to help.
- The biodiversity course was very useful. I learned how to combine a variety data sets to infer likely places of conservation value. Unfortunately, nothing of what I learned could adequately penetrate local politics, anti-planning/anti-government property rights advocates, and municipal staff with limited knowledge or interest in habitat protection. A small group of large landowners drove the agenda and out organized our own efforts to protect natural areas. They dominated the Comp Plan process; undermined the purpose of the Citizen's Advisory Committee on Conservation (CCAC); and watered down any elements of both an Open Space Protection and Farmland Protection Plan, which could have logically been the catalyst for a bond referendum for an open space protection fund. They continue to come out in large numbers whenever open space protection is on the agenda of any Town meeting. Town staff, is equally culpable, as they are fundamentally pro-development, pro-developer, and anti-open space protection. They strongly support economic development, which includes all aspects of the construction/builder industry. They do, however continue to give lip service to protecting habitat and open space, but that has generally devolved into unending meetings about or related to protecting open space, marked by little or no substantive action. As a measure of the evasiveness of Town staff and elected officials, the CACC which was formed as a recommendation coming out of the Comp Plan was never configured as a statutory CAC...there was too much push back from the rural landowners for that. Also, the CACC was not charged with reviewing site plans, thus a lost opportunity to use the Hudsonia skills.

16. Please briefly describe a personal "success story" where you believe you made a significant contribution to habitat conservation and/or improved land-use planning in your community. (open-ended) n=92

- I believe that the Habitat map we made was useful in to the town in making decisions as to where it would be wise to allow building projects.
- I wish I could add a success story to this section. Biodiversity is outside of the scope of the town architecture board on which I served so not directly involved in this part

of the land use decision. It is very unlikely that a conservation board could be established in Orangetown so the planning board and town board are left with this responsibility. These boards actively oppose most environmental consideration in the land-use process. Work to do! However, although the land-use process here needs a lot of work, the program provided technical capability and importantly, provided me some local contacts that I rely on regularly when working on local projects.

- Sadly, our town does not embrace the positive aspects of the above procedures nor does it encourage community "volunteerism" such as CAC's which could serve as a basis of incorporation of many of the noted procedures. However, in the absence of the local government's support and integration of proactive policies, I have, as a member and chairman of the local planning board, influenced the make-up and scale of two major residential development proposals by having developers understand and agree to avoid and preserve sensitive wetland areas, which most likely may have been destroyed had their functions not been emphasized.
- Further raised awareness of fellow Environmental Board members. Town Board members are not receptive to our role, or potential.
- The Town of New Paltz purchased 60+/- acres slated for intense development that will become part of the Millbrook Greenway, a municipal park of wetlands, steep slopes, trails and protected habitats.
- On numerous applications before the planning board we have asked for driveways to be moved further from small local wetlands or have requested greater erosion protection. Thanks to the Estuary program grants and educational support we have made great progress on our biodiversity map so that nearly 14,000 acres are complete.
- In reviewing the first major subdivision in the Town, I used info from trainings to review reports and ultimately require more info from the applicant in order to make a knowledgeable decision on the project.
- The Kingston CAC is better equipped to provide useful advice to the Planning Board.
- n/a
- Town Comprehensive Plan has revised and updated chapter on Natural Resources including the most recent information on biodiversity.

- There was a grandfather easement for a series of adjacent landowners which would have a direct impact to a downhill adjacent watercourse critical to the area. intense negotiations with each resulted in maximized
- I started our Conservation Advisory Committee and initiated our Comprehensive Planning process. Also, I do most of the things mentioned in this and previous questions. But my efforts were based on information acquired before contact with the Estuary Program. The Estuary Program validated my understanding and serves as a source of information I can recommend to others.
- I don't know enough about how my local boards are working to answer the previous question, and I'm not sure whether there might be a municipal policy adopted here based on some of our work (I answered the 2nd to last question with a no, but I'm not sure.) Re. success stories, I helped create a map overlay that was used by others to promote conservation of a large parcel that was purchased for open space, the Kenridge Farm. I can't think of other examples but there may be some.
- I was instrumental in convincing my planning board to limit development on a 52 acre parcel that had 25 acres of active wetland. The lot count was reduced from 27 lots overall to 16 allowing space for animals to connect with a larger biodiversity corridor and preserving forest canopy to help retain the current populations of forest interior birds within the parcel. The parcel was part of a larger series of parcels that connected to a biodiversity corridor to the north and west, and to a large habitat sensitive land preserve to the south.
- Informing the DEC scoping document for the HRVR proposed project at Williams Lake, and questioning the applicant where wildlife surveys were inadequate. The Commission was under a lot of pressure to green light this project, but adhered to environmental review standards (we'll see what happens--still pending)
- The ridge zoning laws were slightly influenced by our work; but it is hard to see how much good it is doing, the main benefit we are experiencing now is due to the economy and the consequent development slowdown. Not being negative-just honest. We unofficially made some people more aware of the habitat in their backyards.
- Planted trees and shrubs along riparian buffer to better protect stream corridor.

- None, but did participate as a volunteer gathering water samples from Rondout Creek for the Riverkeeper's runoff testing program
- The Somers Open Space Committee's training has enabled it to begin habitat mapping the entire town and to better discharge its newly enlarged powers to review proposals referred by the Planning Board. The Committee has also created a management plan for the newly acquired Angle Fly Preserve based on habitat analysis and is working to develop similar management plans for other larger municipal holdings in Somers.
- The Water Resources Protection Law which I helped to draft is up for its second public hearing shortly. I don't yet know whether it will be a success story. We also, a year or so ago, presented the Board with a conservation subdivision law, which was passed. It has been resented by builders and has had a rocky enforcement history. It hasn't really been tested much, however, because building and development activity has been low.
- Assisted in the Town's adoption of a local wetland protection law.
- In the last five years the Town of Red Hook Tree Committee has planted about 350 trees, shrubs, and seedlings in our parks, along our streams and along our roads. We are working on a forestry management plan that will help us continue to care for our forests.
- Honestly, I did it on a regular basis for Scenic Hudson in assessing biodiversity values on properties along the Hudson River corridor from Albany to New York City. Using the data created and maintained by the Estuary Program was instrumental in justifying the protection of many properties of with high ecological value.
- This is really a board success. Exposure to this information through trainings has created a new awareness on the part of board members. The benefits aren't dramatically obvious yet but there is a slow cumulative benefit (building from zero). (My prior answers also reflect how the information has helped me in my professional work, not just in my own town work.)
- The Planning Board issued a pos. dec. for a subdivision proposal on steep slopes with wetlands adjacent to a small wildlife corridor and then required a wildlife inventory as part of the SEQR review. In another case, wetlands buffers were

preserved along the Saw Mill River as part of the wetlands permit. And another review. working with the wetlands consultant, fencing around a site was altered to allow easier transit for wildlife into the wetlands and through the site

- There have been no applications for projects that would require review of habitats since attending training and receiving report.
- Our success stories, unfortunately, are only to keep from going backwards. We fought a suggestion that our wetland ordinance be weakened, but that is still something that simmers. We have made some people more aware of the value of trees, but did not get a tree protection ordinance nor a steep slopes ordinance passed. We are working to show that open space has value and not all town property has to be a baseball or soccer field to be a town resource.
- I facilitated changes in Scenic Hudson to start considering habitat needs in their park planning. And I was part of a team that helped all of Long Island implement a "Do Not Sell" list of invasive plants.
- Using municipal open space funds, my committee identified and evaluated a 7-acre tract that connected two 800-acre tracts of watershed lands identified as keys to biodiversity in north eastern Westchester County. We then negotiated a deal with the land owners, and worked with the Town Board and the Planning Board to complete the purchase.
- I spoke up at a town board meeting regarding opposing Hydro-fracking and the CAC took on the project with a public visual presentation.
- I have incorporated what I learned into my land trust work, but I do not currently serve on any municipal boards of commissions.
- I have made suggestions to reduce impacts of minor developments, but the Town has not adopted any recommendations in terms of procedural mechanisms for standard reviews. I used the habitat identification skills to identify a previously unknown site that has been described as the largest and most significant Jefferson salamander habitat area in NY state: but the site is in western NY, not in the Hudson Estuary.
- Enhanced awareness and provided a better understanding of the watershed concept for municipalities located within my watershed area.

- Lawyers killed a proposed CAC, telling municipal board would stifle business. Since there is no planning board since municipal board abolished it I have no idea whether habitat is considered in planning, but I myself would mention it in all applications when the standard no environmental effects was checked. Would require the applicant to check databases and I would call DEC.
- Until these projects come to fruition they cannot be called successes however I feel strongly that the timing is important in bringing vital parties together. The land owner and a group that can act in the public's best interest.
- My appeals board has been successful in blocking and significantly reducing incursions into our 100 foot stream buffer. So successful that most developers carefully craft plans outside the protected areas and avoid the need for variances.
- Nothing specific in my community, but we recently completed a stream restoration project at a local High School where we created an outdoor living laboratory for the students. I organized a planting effort with them, gave a number of presentations to the students. Overall the project was unique in that we were not only restoring a stream, but at the same time dealing with stormwater management. This project has garnered a lot of press and a number of adjacent schools are now inquiring how they can partake in a similar project.
- I participate in reviewing parcels for possible Open Space Bond Fund purchase of development rights by evaluating them according to our guidelines and point system. I also supported the passage of a strengthened floodplain development law which has withstood court challenges. This law not only protects riparian habitat in the 100-year floodplain, but protects people from investing and risking their welfare in building new homes in the 100-year floodplain and floodway where they cannot be accessed by emergency vehicles during flood conditions.
- Loved the field trips in the BAT training. Got Hudsonia to do a biodiversity assessment of Williams Lake property. When Town Board refused to fund, I paid for it out of my own pocket so we would have this information.
- Helped transfer ownership of 500 acres of private farm and forestland to NYS DEC, establishing the Battenkill State Forest in Cambridge NY
- Our town tree commission is developing a forestry management plan. We are

looking at our open space plan and are considering our three critical forested areas when developing the plan, i.e. how to prevent fragmentation of these areas. While reviewing an 11-unit proposed project, CAC members (several of whom had taken the biodiversity course), urged the planning board to consider wetland/habitat protection during site plan review. A professional biologist was called in and his recommendations were followed, reducing encroachment into sensitive areas.

- Member of an open space and ag land protection committee, whose plans have been accepted by our town board and will now have an impact on our comprehensive plan and a zoning update.
- Helped to establish cell tower law helped to establish State Park and to add to it helped to establish Friends of Schunnemunk Mountain State Park, Inc. helped to establish Moodna Watershed Intermunicipal Council
- The CAC did an on-site inspection and found an unmapped wetland. Although it was not on any maps, we had to convince the developer to move his project 100 feet away.
- Hung in with the CAC against the odds of a well-known outlook of "I can do anything I want to do with my land."
- 1) Presented on the project at the local Municipal Planning Federation to the local planning and zoning board members. While we met with resistance from some members at the presentation we also had positive response from one town who incorporated a biodiversity assessment in their revision to their General Plan.
- My Town (Gallatin) is not at the moment dealing with these issues. In my Town, it's the background stuff that gets done. I am head of the BAR. I have a group called Gallatin Residents Association--we have 3-4 meetings a year, and a newsletter, to inform Gallatin residents, who are comprised of been-here's and come-here's. Conservation is huge on my agenda, not so much for my immediate neighbors. -- Ellen and Paden have addressed my group, GRA, but the Town itself is sleepy
- Seven large-scale subdivisions (more than 50 dwelling units proposed) were completely modified in design through sometimes arduous but collaborative dialogue with the project sponsors and based on the environmental particulars on each parcel. One, in particular, went from 150 multi-family units to seven SF homes,

clustered.

- Our newly designated conservation board has become much more widely utilized by our planning board as a "planning partner" on site plans that have or might have any significant conservation conditions. Part of the reason is that some of my colleagues and I have taken the time to attend trainings like these and the gained expertise is now considered an asset by the town.
- I am the liaison from our Land Conservancy with the town committee overseeing a municipal land easement which we monitor. Access to information from Hudsonia has been invaluable for this group.
- I requested the habitat survey for our town. The results were surprising to town officials and inhabitants. This information was presented at a public meeting and good comments were received. This has jumpstarted more attention to habitat and environmental factors in many areas. I encouraged the town board to create a CAC, which is now forming. Plans are for the CAC to work toward more detailed habitat information. The town has approved a moratorium on fracking based on environmental factors noted in the habitat survey.
- Helped with organizing and continuing the municipal will to apply for grants to create a municipal wide habitat mapping project. The training I received encouraged me to actively proceed in bringing this tool to my town and its planning board. Also when creating publications biodiversity was included along with other water related issues again due to the training received. Thank you.
- Our land trust has protected thousands of acres
- I work as a kind of background ombudsman helping to forward habitat conservation and protection agendas (and in other areas), serving my town in supporting those who are doing these things more formally on the commission/committee/board levels. I "agitate" the questions when appropriate; challenge the premises and details when they are poorly or not properly presented; advocate with those in a decision-making role, try to popularize decisions, and try and save money for the town in doing all of this.
- Information provided was useful in our advocacy for environmental review of a large project in a sensitive area. It remains to be seen how the municipality will use the

information. Jobs and development appear to be the priority.

- Created overlay district for Black Creek to ensure special consideration for environmental issues
- On-going amphibian surveys in an area exhibiting unusually high species diversity led, in part, to inclusion of a particular priority protection area in the State Open Space Conservation Plan
- Working for a land trust, I feel we are attempting to make a significant contribution to habitat conservation in the work we do. I think we could do better by being more proactive in our conservation efforts.
- Westchester County now has had deer-thinning program in operation for a few years which I helped to set up before I retired in 2006. I was then Deputy Commissioner of Parks for Conservation. Estuary Program helped us advance on a host of conservation efforts generally.
- Passage of the Town of Amenia 2007 comprehensive plan and new zoning law. The subsequent donation of a full conservation easement on 150 plus acres of prime soils slated for gravel mining.
- I have made many individuals in the community aware of amphibian migrations, and of the need to preserve woodland pools. I have tried to get people interested in the amphibian life cycle and discourage them from introducing fish into their private ponds. I have tried to encourage our local land conservancy to focus on preserving lands important for their biodiversity value.
- The Land Use Advisory Committee was successful in acquiring 47 acres of environmentally sensitive property in our Village.
- We are in the process of finalizing a mile long public fishing rights area.
- Hudsonia prepared a wetlands map for the village that showed 5 small wetlands on property that was contiguous to critical habitat in future nature preserve. The plans for the development of the property showed the area as "cut and fill." The report said that the property owners had refused to allow Hudsonia to field check the wetlands. We were able to field check it ourselves because of the training we received from Hudsonia and we knew about them from the map. We had also learned that contiguous wetlands that are part of the same watershed can be

counted together to make the 12.4 acres that mean the wetland is eligible for state protection. Our efforts at sharing this information were crucial to the developer's ultimate decision to sell the land to the town to be part of a preserve rather than another mctownehouse development

- Put up signs, wildlife conservation zone, road crossing (herps.) restricted Area etc. around privately owned wetlands, vernal pools and rattlesnake den. When NYC DEP purchased several hundred adjoining acres, they decided recreational use would be restricted to hiking only YES! In essence we now have a de facto wildlife corridor from the top of Mt. Tobias (state wild forever forest) South to the Ashokan Reservoir and watershed. Now if there were just some slow down for wildlife signs on Rt. 28!!!!
- I now live in another community, so I can't respond to this.
- Those of us interested in conservation constitute a small and ignored minority in a town dominated by development-obsessed politicians. Unfortunately, we have long been voices crying in the wilderness. We persist in the hope of a better future.
- I am the Lead Volunteer on the application to the Appalachian Trail Conservancy for Dover and Pawling to become an "AT Community."

<http://www.appalachiantrail.org/what-we-do/community-engagement/appalachian-trail-communities> One of the reasons I was successful in managing the various stakeholders as well as drafting the Application itself is due to my participation in the Dover Knolls, Cricket Valley and Rasco projects, Hudsonia Short Course, Dutchess County Watershed Awareness Month, Dover Earth Day and the NYS pilot Master Watershed Steward Training Program. I would be happy to forward a copy of the pending Application if you are interested. Stancy DuHamel, cduhamel@lebenthal.com

- All the members of the Rockland team are still heavily involved in these processes. All members are diligent advocates for biodiversity. Even ten years later our map has resurfaced and was recently reviewed at an Orangetown municipal meeting.
- Installed a wetland and steep slope law Require all new developments to have CAC review
- Not as yet
- I have done little to contribute anything significant--very, very small scale. As a substitute school teacher (7 years), I have tried at any given opportunity to promote

habitat conservation, and have instilled this in my own children. I hope the BAT work helped promote the conservation/preservation of the most untouched areas of Saugerties upon which we did the study. The Esopus Bend Nature Preserve supposedly benefited from my habitat study of it. I also did a grad school habitat study of a very small, (but terrific) area (Canoe Hill ridge) used to develop curricular materials to illustrate how local schools could benefit from this type of project anywhere. I did this just a few months before leaving for CA, and I have shown a few school principals here. They have been totally impressed, but due to the absolutely wretched school budgets (worse than NY), said they 'would LOVE to have that done at their locations, but could not afford it.' [If all my waking hours were not taken with work and/or seeking real/permanent work, I would be willing to do a few schools for free; as it is, I am striving to move wherever I may find a 'real job'--desperately.]

- Saving Torne Valley, Hillburn, NY Saving various other parcels in Ramapo, including acreage around historic sites Native Plants Garden & education downtown revitalization Scenic ByWays Program Ramapo River Trail etc....
- As a planner for a local municipality, I am able to review habitat and wildlife reports and follow-up with site visits which may result in recommendations that could change the project's design.
- We are planning a preserve/trail system near a unique bog pond within the town.
- Not a success yet, but the CAC speaks out about land use and tries to influence builders and architects etc. to use sustainable approaches. there is an 18 acre lot with an abandoned office building that Toll Bros want to develop into 70 luxury town homes - and the CAC has been asked to comment - a HUGE step from before when we had less respect
- Updating of the Dutchess County NRI, one of the most comprehensive in the nation.
- For me the most rewarding efforts have been the development of local water resource (wetland, stream, etc.) protection laws, and local watershed management plans.
- I consider myself not so much as an activist at the municipal level as a provider of information at the site level. I hope that the info provided to farming and non-farming land owners has helped them manage their land more in tune with the wild

plants and animals that live there.

- Helped in developing the Habitat Assessment Guidelines. Wrote the Milan Wetlands Ordinance.....unfortunately neither being used in Milan.....satisfied that other municipalities are benefiting from them.
- Our CAC requested that the Board require that mowing of leased fields in a park be done later in the season to not interfere with ground-nesting birds. This was accepted.
- Threatened watershed status otterkill/black meadow stream
- HREP funded a multi-pond ecology study we did in the County by sharing the resulting information with a variety of land owners, I think we have helped them better understand how they can engage in ecologically-beneficial landscaping and pond management.
- Note: in above question, I did provide recommendations, as indicated, to the local government; some are incorporated into local law, particularly the zoning law, but the Planning Board usually fails to follow the recommendations. However, the Town did ask the ECC to write a groundwater protection section of the current zoning law and this was done. But the County Planner and the Planning Board had objections. So, the ECC and a member of the Planning Board redid the section and that is now before the Town Board for consideration. I did write an Estuary grant for wetland/watercourse protection. The grant was approved in 2008 but only funded in 2011 and is currently in process. Three public meetings have already been held; the proposed zoning law section is almost complete; the ECC plans three more public meeting where the proposal will be presented, comments from the public received, and the proposed law revised before presentation to the Town Board planned for winter, 2014. The grant expires next fall and we will probably need an extension.
- Co-drafted and spearheaded lobbying effort to adopt tree ordinance that took a community wide approach to our woodland resources, and required forest management plans for municipal lands and encouraged FMPs for private lands
- I can't say that I've had any success in my town.
- A small man made created wet land will be improved by the landowner during new construction due to insistence to protect the wetland from the planning board.

- Our open space reflects biodiversity protection principles
- Even though i was not reinstated as chair or a member of our current CAC, the information i gave them when i was chair is now being recognized [as necessary to the completion of our town's OSI, which it true], and the new CAC has recognized one annual report i wrote and the work of all previous members in its current written report. so i feel like the tremendous amount of work i did in getting our CAC going was worth it and is being utilized to some degree, which is a great relief.
- Geospatially enabling our community's stream walk data for greater public access and assessment.
- Reduced number of lots (density), and eliminated potential construction on sensitive lands.
- Sadly, none to report. After 5 years of close participation, I had little influence on what happened in the Town regarding planning.

25. How has the willingness to conserve natural areas and wildlife changed in your community over the last 5 years?

25a. Please explain your answer: (open ended) n=125

- Some greater respect of flood plain areas after multiple recent flooding events.
- Have no really followed local politics, since I relocated here.
- Woodstock people have always been interested in conservation. Do not know if they are more interested now than before.
- We had some small success in open space preservation and local transportation planning about 10 years ago. Since then, interest is mostly lower. Some current watershed interest but mostly talk that does not recognize the local land-use process. Some of this is due to economic conditions but most is due to the lack of interest or outright opposition by elected officials and their political appointees. This attitude has strengthened in the last 5 years.
- Don't think it's changed as the community is strong on preservation and conservation
- Part of land use planning and project review
- Being the retail hub of Ulster County, the main emphasis by the local government has been and continues to be the support of unrestricted development. Creation of CAC's, suggested creation of preservation policies for such resources as wetland, sensitive water features, forests, logging ordinances, control of destructive mining operations, etc. are "perceived" as being restrictive and impediments to development. The notion of balanced development is not understood or appreciated.
- The actions of Scenic Hudson has been increased to secure and preserve lands for public use.
- Our community has always had a strong willingness to conserve nature but technical information from skilled professionals has helped them make a stronger case.
- Change of political leadership helped. Existing Supervisor moderately educated about conservation, former supervisor was strongly anti-environmental. Having a competent active CAC helps create a dialogue on conservation issues. Having a few educated and concerned conservation minded citizens on planning board helping too.
- My community is very conservative and much land is owned by the NYCDEP so most land conservation is coming from this source. The local municipality and NYCDEP do not always see eye to eye.
- There are more conversations about conservation than before.
- The establishment of the Kingston CAC and its activities have greatly helped to build

awareness and better information to the boards and decision-makers.

- The real estate market is quite weak so people are more willing to consider "alternative" ways of valuing land; increased presence of individuals and organizations with an interest in open space protection.
- White Creek Comp Plan includes conservation subdivision and encourages other voluntary measures to better balance development with conservation.
- More residents have placed their property in conservation easements. Sports organizations conserve land.
- Open space conservation easements from Hudson Highlands Trust have increased dramatically in town and also some town donated open space land transfers took place as well
- There have been no opportunities in the last five years. Before that we protected a wetland, land along the Bozenkill and land along the Escarpment. Also we protect open-space and biological resources as part of our subdivision process.
- I think as our town nears build-out, the community is more aware that landscape that attracted them to the town is fast disappearing. Unfortunately, the need to provide adequate housing for new residents and the children of present residents who wish to stay and raise their own families in the town puts pressure on the town to allow development. The training that planning board members receive is invaluable in helping the town to guide development in ways that preserve land yet accommodate development.
- New Supervisor and Planning Board has been allowing development in large wetlands.
- Strong consideration is being given to developers.
- More landtrust activity, support for local agriculture on small scale,
- Current Town Supervisor has openly stated that he opposes protecting open space.
- Scenic Hudson has increased its holdings significantly and the town's Waterfront Board has been increasingly active in conservation and control of the invasive "water chestnut".
- Somers has demonstrated a fairly consistent dedication to land use planning and conservation. After all, it went ahead and spearheaded the acquisition of Angle Fly Preserve, putting in \$4 million of its own money, and has continued to support efforts to protect land--such as 200 acres of Stuart's Farm, the last of a couple family farms in the area.
- The willingness to conserve has been a part of this community for more than 5 years
- There is receptivity on the Town Board to conservation measures, but the Board is also, of course, responsive to those who don't want increased land use control and/or resent any

money spent on conservation. I would say over time there has been a greater respect for conservation as a general matter.

- more pressing issues in view of economy
- The new zoning and wetland laws strongly advocate natural resource protection
- I have been reviewing the Comprehensive Plan, The Open Space Plan and the Centers and Greenspaces plan. It certainly reflects a community moving in the right direction and is often a community that is to be emulated. Also the CAC has done a lot to encourage good energy policy.
- There have been changes in the population, as well as changes in communication in the town, which has generally created more of an atmosphere of awareness and involvement. But there is a long way to go. The town is sorely lacking in good leadership.
- More concern about protection of wildlife and wetlands
- Documentation and education has led to less resistance to apply biodiversity protection to project design
- not sure- only recently 2 yrs. became involved in planning issues more seriously- land conservancy always working- for many years but I do not know how much more or less.
- Homeowner rights is the new slogan, so restricting any activity even one with effects that are felt off the property) is now looked at with disfavor based on 3/5 of the town board. They want fewer regulations and restrictions. Construction-friendly policies are felt necessary to allow our community to compete for people moving into the area.
- There is more interest in doing things well the first time.
- The big change happened 10 to 12 years ago. We have since maintained that level of improvement.
- Tree commission gives away free seedlings in the spring and fall. Many people plant trees and donate money to keep the program going. People interested in the restoration of the St. Margaret's home property preservation. Increased interest to support farmers markets and buying local to support farming.
- Changing demographics
- Revised Master Plan and Land Use and Zoning Regulations were adopted - which use some of the right principles and language.
- I'd like to say increased A LITTLE. Cluster housing, accompanied by conservation easements has taken hold for new developments.
- The board is split into 2 factions. Mayor and Deputy Mayor are active in flood control and the Moodna Creek Coalition, but the majority of the board is opposed to anything the

Mayor and Deputy Mayor are in favor of. So, Yes & No. The remainder of the board are clowns.

- There is massive redevelopment going on, with thousands of new units, driven by desire for segregated housing, which is permitted in my town. My stream turns to mud with every hard downpour. Riparian buffers are being bulldozed, and the stream is being culvertized.
- We are totally within the DEP Watershed
- We have always been concerned!
- I believe that the downturn in the economy has made conservation a low priority.
- As an agricultural community, we have always been willing to conserve natural areas
- We have so little of it now.
- I've only been in my community for 2 years.
- The Town Board is reluctant to use the Open Space Bonding authority which was voted due to reluctance to spend taxpayers money in the recession, so additional development rights or fee land is not being considered for acquisition now.
- New administration pays only lip service to conservation.
- With our current planning board members and planning consultant, these issues are a priority and are considered when projects are reviewed. We are very fortunate.
- It is difficult to get information out to the public, and feedback from that information dissemination, what with no town center, multiple school districts, and few media tools. It has proven difficult to get people out to meetings.
- When the supervisor put a notice in the paper that a CAC was being considered, s/he wrote "Conservative Advisory Council," and did not correct it when so requested (repeatedly).
- Recession has strained gvt resources...and board will not conserve open space with funding
- We have had 3 different supervisors in 5 years, and attitudes changed, the economy has changed. The willingness has increased, the town has gotten some Grant money for recreation projects. But the process is slow.
- With new leadership, a new town comprehensive plan, and zoning laws, there has been an increase in town citizens participating in town decisions. The town comprehensive plan spelled out the need to keep the town rural and protect the natural, wildlife and water resources.
- The economy has become more of a priority
- Additional interested parties, inc. Land Trust, CAC, Community Gardens
- The 2007 Comp Plan specifically states that the residents want to retain a rural feel to the

Town.

- Increased community involvement with tree planting projects through Trees for Tribes. Currently submitting joint application with Town of Dover/Pawling to be designated an Appalachian Trail Community. Some positive influence from the Oblong Land Conservancy First Saturdays programs.
- In the last 3 years over 250 Acres have been preserved as Open Space; approx 450 additional acres from 1995 to 2010. However, what seem to be, not recognized is the Communities LOSS of Property Tax Income for those properties. The concept of increased Economic or Tourism income is not so tangible to those on fixed incomes.
- Better management of flood plains and wetlands
- Less public interest generally
- Nobody cares about the environment, they just want lower taxes...
- The Water Resources Protection and Flood Prevention law we passed in 2009 was overturned by a subsequent administration in its first legislative act. Our newest administration's members came from our Planning Board and CAC and are committed to re-enacting the law and our CAC has conducted workshops for families on the importance of environmental protections as well as led trees for tribes projects yearly.
- Our new comprehensive plan was adopted about five years ago and included an open spaces inventory. New zoning, with significant protection for open space and natural areas was adopted about two years later.
- Zone changes
- I believe the impacts from flooding in the recent years may have brought more concern about conservation issues as they relate to development, but this seems more about human concerns than natural areas and wildlife.
- Increased momentum to expand and upgrade riverside or rail corridor recreational hiking/biking trails.
- Things happen slowly here.
- Some of the leadership have changed from being against anything environmental to agreeing to create a CDC, supporting the Trees for Tribes project, and supporting using GIS. It helps that it doesn't cost money, as that seems to be related to those who speak against "tree huggers". Bringing in experts to speak helped. Taking a balanced approach - use this info but it doesn't have to drive your decision. Just look at it. By going through re-writing zoning at this time, there is a lot of discussion about these issues. On the committee, we have allowed very open opinion sharing, so the most extreme views have been expressed.

This has developed into everyone becoming a bit more moderate and learning to listen better.

- Based on tools and mapping has helped, but at the same time retirement of an experience official slowed down other departments so it is a constant need to educate people who come and go.
- Awareness has been raised and more volunteers and advocates are involved.
- Biodiversity issues are somewhat being factored into planning and zoning decisions; the envelop is expanding; a slow change in thinking has occurred over more than a five-year period, and is still evolving
- Interest in biodiversity seems to be waning as Comprehensive Plan amendments are being considered.
- We have a wetlands law which provides buffer areas for wetlands 1 ac or greater. We have a ridgeline law for structures being proposed in the ridgeline. We have conservation districts and open space provisions in our zoning code. We have provisions in the zoning code to cluster subdivisions and preserve open space.
- Budgetary, program, and staff support has been all but absent and appreciation for the importance of these areas does not exist beyond technical staff level
- While people are open to the idea of maintaining natural areas, the impact of ever increasing taxes and regulations combined with a stagnant economy makes it harder. At least with a lousy economy there isn't as much scattershot development.
- More verbal response, attendance at meetings, letters to editors
- Moved to Danbury, Ct in 2005; not generally engaged in community affairs except serving on Danbury Historic Property Commission. I have recently been asked to serve as advisor to local Conservation Commission but so recent as not yet to have attended any meetings yet.
- Require conservation analysis and easements.
- The current Board has a slight bit more knowledge about environmental issues and biodiversity.
- Municipal officials have more respect for the environment and environmentalists. One reason is that our current Town supervisor sought out a local resident who is a biologist with a big firm and asked him to serve on the environmental commission. Having a professional on board has raised the level of the committee. Also the biologist has the people skills to handle officials and developers well and bring them around to his point of view. The lay of the land has changed since I served on the committee. More people both

in town government and out take for granted that we need to protect water and wetlands, maintain and connect natural areas for animals, and plan growth carefully for the future. But I'm not sure that the regulations in place are adequate.

- Kept out a mega mall.
- Change in leadership and economic downturn are main causes
- People move to the community because of the wildlife, but there are still idiots who want to build on the floodplain
- Slow process, some improvement
- I think there has been little change in the last 5 years due to the reduction in subdivision applications--reduced pressure on the planning board.
- Major increase in awareness and activism
- Affordable housing, jobs and more taxes more important
- The people in charge have been there a long time (many on planning and zoning boards for twenty or thirty years) and have never shown interest in anything but being pro-development of any variety as long as it includes plenty of parking spaces.
- My community has had a long history of conservation, but with the current economic downturn it is sometimes harder to make conservation as important a priority as it has been in the past. So increased interest and knowledge on the part of many has been counter balanced by economic hardship arguments on the part of others. The result is that we are still interested in conservation, but we don't do any more (or less) than we have been doing for the last decade. I do think we do what we do more knowledgeably, however!
- The AT Community Designation Application requested that the municipality making the application demonstrate conservation-minded decision making with regard to the AT, and the application process in Dover went off without a hitch; Town Hall support for Dover CAC projects -they are all enviro/habitat related (not enough members on the CAC to attend Town Board and Planning Board meetings, or give advice);strong Town Board support of the programs I run in Dover on behalf of the Oblong Land Conservancy; School District support from Superintendent Mike Tierney and the Principals for Dover Earth Day and other enviro-related projects - this was decidedly not the case under previous School District Supt.
- No thanks
- It has always been pretty high, I believe.
- May be slight input from the public at town and board meetings.

- We have a movement towards the open space plan/inventory. It is only beginning
- My municipality has preserved over 1,000 acres of open space, wetlands and woods, as well as a number of historic properties with acreage
- Current town board not inclined to access bond funds approved by voters in 2006. Don't think a bonding question would pass today.
- Through the establishment of conservation overlay districts throughout our town that remove environmentally sensitive lands (flood plain, state & federal wetlands, Local protected watercourses) out of the development density calculation.
- Increased receptivity to protection of natural areas and preservation
- Became part of our Comprehensive Plan.
- The planning board takes open space into consideration when reviewing cases. Farmland is being preserved or plays a big part in what is approved.
- Willingness by town officials has increased - we are protecting a unique habitat in the town. Uncertain if willingness by residents has increased.
- It's all talk - everyone loves open space, but the Village likes TAX revenue better
- Protection of two large parcels within the municipality within the past 5 years
- People have moved here from downstate areas for the purpose of enjoying the country. Many of those people are active in local government.
- People may have become more aware of some issues, but seem less willing to act or participate.
- There seems to be more awareness of ecological issues. We have a great recycling center and our town buildings are geothermal.
- No active CAC...no defense of the Wetlands Law after lawsuits by Durst and Red Wing.
- With our current supervisor, there has been much less public participation in board meetings. Due to law suits against the Town, the Comprehensive Plan got thrown out and has still not been replaced.
- The appointment of a Conservation Advisory Council has made a huge difference. The council has been active in the formulation of new zoning to protect the environment
- Particularly in this economy folks are not interested in ANYTHING that is perceived to "cost" them in the short term. Any restriction on development/building is perceived as "cost", except when the restriction is on a neighbor where they do NOT want development! (It's a small town!)
- The composition of the Town Board changed last year, with a majority expressing interest only in development and with little knowledge about or interest in sound land-use

planning and environmental and habitat protection. We are working on educating them.

- Not as fond for open space and conservation as previous board
- Our town went from mandatory conservation to voluntary. this enables developers to conserve land as opposed to making people conserve land, especially those parcels that have been described in a will.
- I did explain, but when finished and 'error' was indicated and I was advised that I would return to the same point. Well, I don't feel like typing a long paragraph again.
- While elected officials have varying levels of commitment to environmental protection, staff and volunteers are both dedicated to the principals of good planning and effective ambassadors. ECONOMIC DEVELOPMENT pressures are higher due to the effects of a sluggish regional economy however, so many less than ideal proposals are being considered.
- I have no way to gauge community willingness as a whole.
- I would say we are slightly "post-peak". We had a peak when we passed an open space bond in 2006 and subsequently purchased parcels for their natural values. In the last two years our community has faced financial challenges that have reduced the appetite for moving these programs forward.
- I see no change.
- There are a few people in town [New Lebanon] who sometimes get involved in land use, and who pushed through a comprehensive plan, housing survey, and zoning rewrite, but they are elitist and despise the townspeople who aren't in agreement with all their ideas and who don't have lots of money. So the town is very stratified and non-functional; we have a comp. plan but nobody on the boards is willing to utilize it in any way or in any land use decisions, and there is no respectful dialogue toward compromise. That is what I was hoping the estuary program people would assist us with, but they don't seem to get this and didn't help at all to resolve this schism.
- Development, while at a low level, continues in the rural areas of the township. Mostly conversion of farmland to residential.
- See earlier comments

APPENDIX B: NON-PARTICIPANT SURVEY INSTRUMENT WITH FREQUENCIES

Survey of Community Planning and Conservation – NON-PARTICIPANTS

This survey is part of the following project:

Contract: DEC-DNR Biodiversity Conservation Research and Support (OSP #61633-Task 3)

Project Title: Designing an Evaluation Protocol for the Hudson River Estuary Program Biodiversity Outreach Program

Contributors: Shorna Broussard Allred, Richard Stedman, and Maureen Mullen of Cornell University's Human Dimensions Research Unit (HDRU), and Karen Strong and Laura Heady of the Hudson River Estuary Program (HREP) Biodiversity Outreach Program.

Survey implementation dates: February 12, 2013 – March 24, 2013

Survey sample: In total, 31 non-participants completed the survey out of a possible 104 with valid email addresses, yielding a response rate of 29.81%. Additionally, 11 non-participants started the survey, answered at least one question, but did not complete it. These partially completed cases are also included as part of the final dataset; n=42, yielding a response rate of 40.39%.

Survey description: This is an online survey of decision-makers in the Hudson Valley that have not participated in the Hudson River Estuary Program's Biodiversity Outreach Program, an outreach and technical assistance program. The purpose of the survey is to compare responses of program participants to non-participants so as to improve the understanding of decision-makers' needs, and determine what future changes may be needed in the program. The following document presents the results of this survey.

1. What is your formal role in municipal land-use or conservation planning? (please check all that apply)

n=42

- | | | |
|---|----|---|
| o Town board, village board, city council | 2 | |
| o Planning board | 24 | |
| o Zoning board of appeals | 4 | |
| o Conservation advisory council/Environmental commission | 4 | |
| o Open space committee | 0 | |
| o Comprehensive/Master plan committee | 4 | |
| o Municipal staff (e.g., town engineer, code enforcement officer, planner) | 16 | |
| o None of the above | | 2 |
| o Other municipal board, commission, or committee (e.g., tree commission) (please specify) [open-ended] | 3 | |
| • Traffic Commission and Historic Board | | |

2. How long have you been involved in municipal land-use or conservation planning in one of the capacities identified above? (please check one)

n=39

- | | |
|----------------------|---------------------|
| o Less than 1 year | 1 (2.6%) |
| o 1-4 years | 9
(23.1%) |
| o 5-9 years | 8
(20.5%) |
| o 10-14 years | 9
(23.1%) |
| o 15-20 years | 4
(10.3%) |
| o More than 20 years | 8
(20.5%) |

3. What municipal land-use or conservation planning roles have you had in the past?
 (please check all that apply)

n=42

- o Town board, village board, city council **3**
- o Planning board **16**
- o Zoning board of appeals **1**
- o Conservation advisory council/Environmental commission **5**
- o Open space committee **3**
- o Comprehensive/Master plan committee **8**
- o Municipal staff (e.g., town engineer, code enforcement officer, planner) **11**
- o None of the above

12

- o Other municipal board, commission, or committee (e.g., tree commission) (please specify) [\[open-ended\]](#) **4**
- o **[No "other" answers provided by survey participants]**

4. For any of the boards, commissions, or committees listed above, have you served as chair? (please check all that apply)

n=30

- o Yes, currently **14**
- o Yes, in the past **8**
- o No **10**

5. How long have you been involved in local land-use or conservation planning in a formal capacity? (please check one)

n=41

- o Less than 1 year **1**
(2.4%)
- o 1-4 years **7**
(17.1%)

- o 5-9 years **8**
(19.5%)
- o 10-20 years **14**
(34.1%)
- o More than 20 years
11 (26.8%)

6. To what extent to you agree with the following statements? (please check one per row)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
i. I have a personal responsibility to leave the earth in good condition for future generations. n=38	0 (0%)	0 (0%)	2 (5.3%)	14 (36.8%)	22 (57.9%)
j. Natural areas like forests are important for maintaining clean air. n=38	0 (0%)	0 (0%)	1 (2.6%)	15 (39.5%)	22 (57.9%)
k. Natural areas like wetlands are important for maintaining clean water. n=38	0 (0%)	1 (2.6%)	2 (5.3%)	14 (36.8%)	21 (55.3%)
l. Natural areas provide scenery. n=38	0 (0%)	1 (2.6%)		14 (36.8%)	23 (60.5%)
m. Natural areas help communities adapt to climate change. n=38	0 (0%)	2 (5.3%)	8 (21.1%)	14 (36.8%)	14 (36.8%)
n. Natural areas provide important habitat for many species of plants and animals. n=37	0 (0%)	1 (2.7%)	0 (0%)	16 (43.2%)	20 (54.1%)
o. Natural areas provide recreation opportunities like	0 (0%)	0 (0%)	0 (0%)	15 (39.5%)	23 (60.5%)

hiking, fishing, boating, hunting, and bird-watching. n=38					
p. New medicines to treat diseases like cancer may be derived from plants and animals. n=36	1 (2.8%)	0 (0%)	7 (19.4%)	13 (36.1%)	15 (41.7%)

7. How would you rate the following? (please check one per row)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a. I understand the principles of conserving biodiversity. n=36	1 (2.8%)	0 (0%)	5 (13.9%)	20 (55.6%)	10 (27.8%)
b. I understand factors that contribute to loss of biodiversity. n=36	0 (0%)	1 (2.8%)	6 (16.7%)	18 (50.0%)	11 (30.6%)
c. I understand why biodiversity is important to my municipality. n=36	1 (2.8%)	1 (2.8%)	5 (13.9%)	19 (52.8%)	10 (27.8%)
d. I understand the role of my municipality in conserving or enhancing habitat. n=36	0 (0%)	0 (0%)	5 (13.9%)	17 (47.2%)	14 (38.9%)
e. I can identify specific land-use practices to conserve or enhance habitat. n=36	0 (0%)	3 (8.3%)	4 (11.1%)	18 (50.0%)	11 (30.6%)
f. I understand the technical tools that could be used for conservation practices (such as GIS). n=36	0 (0%)	2 (5.6%)	6 (16.7%)	18 (50.0%)	10 (27.8%)

g. I am interested in the relationship between biodiversity and land-use. n=36	0 (0%)	2 (5.6%)	3 (8.3%)	19 (52.8%)	12 (33.3%)
h. I am able to inform and influence land-use decisions. n=36	0 (0%)	1 (2.8%)	5 (13.9%)	19 (52.8%)	11 (30.6%)
i. I am confident that my actions will make a difference. n=35	0 (0%)	1 (2.9%)	6 (17.1%)	16 (45.7%)	12 (34.3%)
j. I know where to go for information on planning for biodiversity. n=36	0 (0%)	5 (13.9%)	7 (19.4%)	20 (55.6%)	4 (11.1%)

About Your Municipality

8. How many hours per week is your town hall open? (please check one) **n=37**
- o Less than 10 hours **1 (2.7%)**
 - o 11-20 hours **3 (8.1%)**
 - o 21-40 hours **22 (59.5%)**
 - o More than 40 hours **9 (24.3%)**
 - o Don't know **2 (5.4%)**

9. Does your municipality staff the following positions?

	Staff (full/part time)		
	Yes	No	Don't know
d. Planner n=34	18 (52.9%)	16 (47.1%)	0 (0%)
e. Wetland inspector n=31	3 (9.7%)	27 (87.1%)	1 (3.2%)
f. Biologist/Ecologis t n=30	1 (3.3%)	29 (96.7%)	0 (0%)

	Consult as needed		
	Yes	No	Don't know
d. Planner n=17	16 (94.1%)	1 (5.9%)	0 (0%)
e. Wetland inspector n=24	18 (75.0%)	4 (16.7%)	2 (8.3%)
f. Biologist/Ecologis t n=27	18 (66.7%)	6 (22.2%)	3 (11.1%)

10. Does your municipality use computer-based mapping (such as GIS) in land-use or conservation planning review? (please check one)

n=36

- Yes **15**
(41.7%)
- No **15**
(41.7%)

- o Don't know
(16.7%)

6

11. Please let us know how much you agree or disagree with the following statements:
(please check one per row)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
i. My municipality has capable leadership. n=36	0 (0%)	2 (5.6%)	4 (11.1%)	24 (66.7%)	6 (16.7%)
j. My municipality's boards have a high rate of turn-over. n=36	7 (19.4%)	17 (47.2%)	11 (30.6%)	1 (2.8%)	0 (0%)
k. My municipal elected officials and I work well together. n=36	0 (0%)	1 (2.8%)	3 (8.3%)	22 (61.1%)	10 (27.8%)
l. Residents are engaged in municipal issues and decision-making. n=36	2 (5.6%)	2 (5.6%)	6 (16.7%)	20 (55.6%)	6 (16.7%)

12. How has the willingness to conserve natural areas and wildlife changed in your community over the last 5 years? (please check one)

n=36

- o Greatly increased **0**
- o Increased **15**
(41.7%)
- o No change **15**
(41.7%)
- o Decreased **3**
(8.3%)
- o Greatly decreased **0**
- o Don't know **3**
(8.3%)

12a. Please explain your answer: (open ended) **n=24**

- A formal CAC was created. We are working on an Open Space and Wetlands Inventory
- Village officers and residents opposed to using any permanent surfacing of trails in nature lands and linear parks proposed by out of area advocates of bicycling and running. Actions taken to preserve natural catchment areas even though they prevent expansion of school play fields.
- We have recently adopted an Open Space Plan and a new Comprehensive Plan. We have a local

non-profit that continues to receive donations of land and/or conservation easements. Our planning board continues to preserve open space with conservation easements as part of the approval process.

- New DEC and MS4 requirements has made the community more aware of the issues.
- The loss of tax revenue (by not putting undeveloped parcels on or back on the tax rolls seems to balance the desire for preservation).
- We're seeing more involvement in our public hearings and more questions regarding wetlands etc...
- Financial limitations from reduced revenue and that state tax cap limit the town's ability to preserve sensitive land.
- We have been trying to implement waterfront recreation such as a bike trail, improve sidewalks and plant trees (streetscape) with little public interest.
- Rhinebeck has always been interested in preserving its natural resources
- I haven't seen it.
- Our leaders have been educated as to the benefits and have implemented such uses in planning.
- Greater interest and increased funding
- Two new houses were constructed this year on 3 acres of undeveloped land in our community, although good for the tax roll not so good for what you are asking about
- There is a very large percentage of the Town's land area that is already conserved and the there is some interest in increasing the tax base. Most of the land area in question will remain undeveloped regardless because it is park land, federal reserve, and topography is not conducive to any type of large scale development.
- Increased Protection of Steep Slopes
- The planning board can use a conservation subdivision in its planning.
- Only been here for 2 years
- Town approved open space bond via a referendum, but Town Board has only spent a small fraction of the bond money.
- The residents are naturally conservative in their stewardship of the land.
- Tree ordinance
- Consistent land use regulations and protection measures are adequately followed
- Not a lot of natural and wildlife areas
- Town had a high degree of willingness to conserve these areas five years ago and continues to maintain this willingness.
- In this developed community, focus on open space and its preservation has always been a big

part of land use issues.

13. My municipality has adequate plans, policies, and procedures in place to conserve habitat and biodiversity. (please check one)

n=36

- o Strongly disagree **1**
(2.8%)
- o Disagree **6**
(16.7%)
- o Neutral **7**
(19.4%)
- o Agree **18**
(50.0%)
- o Strongly agree **2**
(5.6%)
- o Don't know **2**
(5.6%)

14. Please rate the potential barriers to adopting plans, policies, and procedures in your municipality to conserve habitat and biodiversity. (please check one per row)

	Definitely not at all a barrier	Probably not a barrier	Neutral	Probably a barrier	Definitely a barrier
h. Lack of support from local residents n=33	6 (18.2%)	15 (45.5%)	4 (12.1%)	5 (15.2%)	3 (9.1%)
i. Lack of support from local leaders n=33	5 (15.2%)	14 (42.4%)	5 (15.2%)	8 (24.2%)	1 (3.0%)
j. Not enough residents willing to fill volunteer positions on boards/commissions/committees n=33	4 (12.1%)	6 (18.2%)	6 (18.2%)	14 (42.4%)	3 (9.1%)
k. Inadequate resources to	3	7	9	11	3

implement and/or enforce plans, policies, and procedures n=33	(9.1%)	(21.2%)	(27.3%)	(33.3%)	(9.1%)
l. Local politics n=33	4 (12.1%)	9 (27.3%)	11 (33.3%)	7 (21.2%)	2 (6.1%)
m.Lack of funding n=33	1 (3.0%)	3 (9.1%)	8 (24.2%)	9 (27.3%)	12 (36.4%)
n. Other (please specify) [open-ended] n=7	2 (28.6%)	1 (14.3%)	3 (42.9%)	0 (0%)	1 (14.3%)

- **Other immediate priorities**

15. Is it realistic to expect that your municipality will take additional steps within the next five years to conserve habitats and biodiversity? (please check one)

n=33

- o Definitely not **0**
- o Probably not **9 (27.3%)**
- o Neutral **6 (18.2%)**
- o Probably yes **14 (42.4%)**
- o Definitely yes **2 (6.1%)**
- o Don't know **2 (6.1%)**

16. How would you rate the condition of your community's natural resources (e.g. forests, wetlands, and streams)? (please check one)

n=33

- o Poor **0**
- o Fair **6 (18.2%)**
- o Good **8 (24.2%)**
- o Very good **13 (39.4%)**
- o Excellent **4 (12.1%)**
- o Don't know **2 (6.1%)**

17. How has the condition of your community's natural resources (e.g. forests, wetlands, and streams) changed over the last ten years? (please check one) **n=33**

- | | |
|---------------------------------------|-------------------|
| <input type="radio"/> Much better | 2 (6.1%) |
| <input type="radio"/> Somewhat better | 8 (24.2%) |
| <input type="radio"/> About the same | 17 (51.5%) |
| <input type="radio"/> Somewhat worse | 2 (6.1%) |
| <input type="radio"/> Much worse | 1 (3.0%) |
| <input type="radio"/> Don't know | 3 (9.1%) |

18. Does your municipality include natural resource conservation strategies in its comprehensive plan? (please check one)

n=33

- | | |
|---|-------------------|
| <input type="radio"/> Yes | 27 (81.8%) |
| <input type="radio"/> No | 0 |
| <input type="radio"/> Don't know | 2 (6.1%) |
| <input type="radio"/> Not applicable; our municipality does not have a comprehensive plan | 4 (12.1%) |

About Your Role in Land-use or Conservation Planning

This section asks questions about your role in land-use or conservation planning.

- If you are on more than one municipal committee, please choose the one that **requires the most time.**
- The following questions are written in present tense for clarity, but please respond even if you held the position in the past.

19. Please identify for which municipal role you are answering these questions (choose only one):

n=34

- | | |
|--|-------------------|
| <input type="radio"/> Town board, village board, city council | 1 (2.9%) |
| <input type="radio"/> Planning board | 17 (50.0%) |
| <input type="radio"/> Zoning board of appeals | 0 |
| <input type="radio"/> Conservation advisory council/Environmental commission | 3 (8.8%) |
| <input type="radio"/> Open space committee | 0 |
| <input type="radio"/> Comprehensive/Master plan committee | 0 |

- o Municipal staff (e.g., town engineer, code enforcement officer, planner) [If this is checked, answer only #23-30 in this section]

12 (35.3%)

- o Other municipal board, commission, or committee (e.g., tree commission) (please specify) [open-ended] **1 (2.9%)**
- o [No "other" answers provided by survey participants]

20. On average, how often does your board, commission, or committee meet? (please check one)

n=22

- o Never **0**
- o Less than once a month **1 (4.5%)**
- o Once per month **12 (54.5%)**
- o Twice per month **7 (31.8%)**
- o 3-5 times per month **2 (9.1%)**
- o More than 5 times per month **0**

21. About how many hours per month do you spend on your role in land-use or conservation planning? (Include time spent in preparation, site visits, meetings, etc.) (please check one) **n=34**

- o None **1 (2.9%)**
- o 1-5 hours **11 (32.4%)**
- o 6-10 hours **9 (26.5%)**
- o 11-20 hours **7 (20.6%)**
- o 21-40 hours **4 (11.8%)**
- o More than 40 hours **2 (5.9%)**

22. Please let us know how much you agree or disagree with the following statements: (please check one per row)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	I'm not on a board/c
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						ommission/committee
e. Overall, my municipal board/commission/committee has enough members to carry out its goals. n=21	0 (0%)	2 (9.5%)	3 (14.3%)	11 (52.4%)	5 (23.8%)	0 (0%)
f. My municipal board/commission/committee colleagues and I work well together. n=21	0 (0%)	0 (0%)	2 (9.5%)	10 (47.6%)	9 (42.9%)	0 (0%)
g. My municipal board/commission/committee colleagues trust each other. n=21	0 (0%)	1 (4.8%)	1 (4.8%)	9 (42.9%)	10 (47.6%)	0 (0%)
h. My municipal board/commission/committee colleagues trust our municipal elected officials. n=21	1 (4.8%)	3 (14.3%)	5 (23.8%)	10 (47.6%)	2 (9.5%)	0 (0%)

23. In the course of your land-use or conservation planning work, how often do you interact with the following? (please check one per row)

	Never	Rarely	Sometimes	Often	Very often
l. Town board, village board, or city council n=34	0 (0%)	2 (5.9%)	11 (32.4%)	13 (38.2%)	8 (23.5%)
m. Conservation advisory council, board or environmental commission	7 (20.6%)	7 (20.6%)	10 (29.4%)	6 (17.6%)	4 (11.8%)

n=34					
n. Planning board n=32	1 (3.1%)	0 (0%)	5 (15.6%)	8 (25.0%)	18 (56.3%)
o. Zoning board of appeals n=34	3 (8.8%)	6 (17.6%)	12 (35.3%)	9 (26.5%)	4 (11.8%)
p. Other municipal committees (e.g. comprehensive plan, trails, open space) n=33	3 (9.1%)	8 (24.2%)	14 (42.4%)	4 (12.1%)	4 (12.1%)
q. Neighboring municipal governments n=34	5 (14.7%)	14 (41.2%)	13 (38.2%)	1 (2.9%)	1 (2.9%)
r. New York State Department of Environmental Conservation n=34	3 (8.8%)	16 (47.1%)	11 (32.4%)	3 (8.8%)	1 (2.9%)
s. Conservation organizations (e.g., watershed alliance, environmental group) n=34	8 (23.5%)	10 (29.4%)	14 (41.2%)	1 (2.9%)	1 (2.9%)
t. Land trusts n=34	15 (44.1%)	10 (29.4%)	7 (20.6%)	2 (5.9%)	0 (0%)
u. Universities and colleges n=34	17 (50.0%)	10 (29.4%)	6 (17.6%)	0 (0%)	1 (2.9%)
v. Other (please specify) [open- ended] n=3	1 (33.3%)	1 (33.3%)	0 (0%)	0 (0%)	1 (33.3%)

- **Architectural Review Board and MS4 Administration**

24. How important were the following to the time and attention given to habitat conservation by your board/ commission/committee? (please check one per row)

	Not at all important	Slightly important	Somewhat important	Important	Very important
k. Political pressure n=33	16 (48.5%)	9 (27.3%)	4 (12.1%)	3 (9.1%)	1 (3.0%)
l. Interests of	8	5	7	8	4

board/commission/committee chair or executive director n=32	(25.0%)	(15.6%)	(21.9%)	(25.0%)	(12.5%)
m. State or federal regulations n=33	4 (12.1%)	4 (12.1%)	7 (21.2%)	10 (30.3%)	8 (24.2%)
n. Vocal community members or groups n=33	3 (9.1%)	4 (12.1%)	11 (33.3%)	14 (42.4%)	1 (3.0%)
o. Vocal board member n=33	5 (15.2%)	7 (21.2%)	10 (30.3%)	8 (24.2%)	3 (9.1%)
p. Interests of project sponsor or board of directors n=33	8 (24.2%)	8 (24.2%)	8 (24.2%)	7 (21.2%)	2 (6.1%)
q. Personal interest n=32	6 (18.8%)	2 (6.3%)	10 (31.3%)	10 (31.3%)	4 (12.5%)
r. Priority in existing plan or organizational mission n=32	1 (3.1%)	1 (3.1%)	10 (31.3%)	14 (43.8%)	6 (18.8%)
s. Strong partnerships n=31	4 (12.9%)	4 (12.9%)	11 (35.5%)	10 (32.3%)	2 (6.5%)
t. Other (please specify) [open-ended] n=2	1 (50.0%)	0 (0%)	1 (50.0%)	0 (0%)	0 (0%)

- [No "other" answers provided by survey participants]

25. How often do you deal with the following tasks in your land-use or conservation planning role? (please check one per row)

	Never	Every few years	Yearly	Monthly
l. Zoning amendments or updates n=33	6 (18.2%)	11 (33.3%)	12 (36.4%)	4 (12.1%)
m. Comprehensive plan development or update n=33	3 (9.1%)	25 (75.8%)	3 (9.1%)	2 (6.1%)
n. Open space plan development or implementation n=32	8 (25.0%)	17 (53.1%)	4 (12.5%)	3 (9.4%)

o. Site plan n=33	1 (3.0%)	3 (9.1%)	2 (6.1%)	27 (81.8%)
p. Subdivision review n=33	2 (6.1%)	5 (15.2%)	5 (15.2%)	21 (63.6%)
q. Natural resource laws or ordinances (e.g., steep slope, wetland laws) n=33	1 (3.0%)	20 (63.6%)	6 (18.2%)	6 (18.2%)
r. Environmental review (e.g., SEQR) n=33	1 (3.0%)	2 (6.1%)	5 (15.2%)	25 (75.8%)
s. On-site habitat assessments n=33	13 (39.4%)	7 (21.2%)	6 (18.2%)	7 (21.2%)
t. Habitat mapping n=32	16 (50.0%)	12 (37.5%)	3 (9.4%)	1 (3.1%)
u. Public information campaigns n=33	14 (42.4%)	9 (27.3%)	6 (18.2%)	4 (12.1%)
v. Other (please specify): [open-ended] n=2	2 (100.0%)	0 (0%)	0 (0%)	0 (0%)

- [No "other" answers provided by survey participants]

26. Over the past 5 years, how has the demand for natural resource information to support planning and decision-making in your municipal board/commission/committee or department changed? (please check one)

n=32

- o Greatly decreased **0**
- o Decreased **1 (3.1%)**
- o No change **17 (53.1%)**
- o Increased **12 (37.5%)**
- o Greatly increased **2 (6.3%)**

27. Over the past 5 years, how have resources (e.g., budgets, volunteers, or information) available to your municipal board/commission/committee or department changed? (please check one) **n=32**

- o Greatly decreased **1 (3.1%)**
- o Decreased **16 (50.0%)**
- o No change **8 (25.0%)**
- o Increased **7 (21.9%)**
- o Greatly increased **0**

28. How much of a priority are the following issues to your board/commission/committee or department? (please check one per row)

	Very low	Low	Medium	High	Very high
o. Wildlife habitat loss n=33	4 (12.1%)	3 (9.1%)	15 (45.5%)	8 (24.2%)	3 (9.1%)
p. Loss of forests n=33	4 (12.1%)	3 (9.1%)	13 (39.4%)	10 (30.3%)	3 (9.1%)
q. Wetland loss n=33	3 (9.1%)	3 (9.1%)	5 (15.2%)	12 (36.4%)	10 (30.3%)
r. Declining stream health n=33	2 (6.1%)	6 (18.2%)	5 (15.2%)	14 (42.4%)	6 (18.2%)
s. Hudson River shoreline management n=29	14 (48.3%)	5 (17.2%)	3 (10.3%)	2 (6.9%)	5 (17.2%)
t. Loss of farmland n=32	14 (43.8%)	5 (15.6%)	6 (18.8%)	3 (9.4%)	4 (12.5%)
u. Stormwater management n=33	0 (0%)	0 (0%)	5 (15.2%)	12 (36.4%)	16 (48.5%)
v. Low-impact development/green infrastructure n=32	1 (3.1%)	6 (18.8%)	9 (28.1%)	10 (31.3%)	6 (18.8%)
w. Climate change n=32	4 (12.5%)	12 (37.5%)	8 (25.0%)	7 (21.9%)	1 (3.1%)

x. Drinking water quality n=32	2 (6.3%)	1 (3.1%)	7 (21.9%)	8 (25.0%)	14 (43.8%)
y. Flooding n=33	2 (6.1%)	1 (3.0%)	7 (21.2%)	13 (39.4%)	10 (30.3%)
z. Environmental pollution n=32	2 (6.3%)	3 (9.4%)	11 (34.4%)	6 (18.8%)	10 (31.3%)
aa. Invasive plants and animals n=33	4 (12.1%)	7 (21.2%)	11 (33.3%)	8 (24.2%)	3 (9.1%)
bb. Loss of biodiversity n=32	3 (9.4%)	7 (21.9%)	12 (37.5%)	7 (21.9%)	3 (9.4%)

29. Where does your board, commission, committee, or department get the natural resource information it uses in project review? (please check all that apply) **n=34**

- o Report from applicant's consultant about project **25 (73.5%)**
- o Report from town-sponsored consultant about project **17 (50.0%)**
- o Town engineer **18 (52.9%)**
- o Existing town plans or inventories, such as a Natural Resource Inventory or Open Space Plan **15 (44.1%)**
- o Conservation Advisory Council assessments or field visits **10 (29.4%)**
- o NY Natural Heritage Program data **7 (20.6%)**
- o County Planning Department or Environmental Management Council data **15 (44.1%)**
- o NYS Department of Environmental Conservation data **19 (55.9%)**
- o Web-based natural resource information (e.g., national wetland inventory maps, aerial photos, soil maps) **13 (38.2%)**
- o My board, commission, or committee doesn't use natural resource information **1 (2.9%)**
- o My board, commission, or committee is not involved in project review **0**
- o Other (please specify) [open-ended] **1 (2.9%)**
 - o **Local biodiversity studies**

30. What does your board, commission, committee, or department need to better incorporate biodiversity in land-use or conservation planning? (please check all that apply)

n=34

- o More staff or consultant support **8 (23.5%)**
- o Better volunteer recruitment and retention **11 (32.4%)**
- o Greater coordination between boards/commissions/committees **8 (23.5%)**

- o Greater coordination between neighboring municipalities **12 (35.3%)**
- o Stronger and clearer mandate for your boards/commissions/committees **9 (26.5%)**
- o Better (or more) training and/or technical assistance **13 (38.2%)**
- o Increased access to available data **15 (44.1%)**
- o Increased access to technology **9 (26.5%)**
- o Greater commitment from leadership **9 (26.5%)**
- o Stakeholder engagement **3 (8.8%)**
- o Other (please specify) [open-ended] **3 (8.8%)**
 - **More realistic unbiased information**
 - **We have a biodiversity overlay district**
 - **We incorporate it well as needed**

The Hudson River Estuary Program

The New York State Department of Environmental Conservation's Hudson River Estuary Program ("Estuary Program") works on the Hudson and in its watershed to ensure clean water, protect habitat, encourage river recreation, adapt to climate change, and conserve scenic vistas. Since 2001, the Estuary Program has provided free training and technical assistance to local communities to conserve natural areas and important habitat throughout the estuary watershed. All program offerings have been intended to provide municipalities with the tools needed to consider conservation of *biodiversity*--healthy, functioning natural systems with diverse assemblages of plants and animals-- in local planning and land-use decisions.

31. Before now, had you heard of the Hudson River Estuary Program? (please check one)

n=29

- o Yes **21 (72.4%)**
- o No **8 (27.6%)**

32. Were you aware that the Hudson River Estuary Program offered training and technical assistance to incorporate habitat conservation in local land-use planning and decision-making? (please check one)

n=30

- o Yes **12 (40.0%)**

o No **18 (60.0%)**

33. How likely would you be to participate in the Estuary Program’s training or technical assistance in the next five years? (please check one)

n=31

- o Not at all likely **2 (6.5%)**
- o Slightly likely **7 (22.6%)**
- o Somewhat likely **7 (22.6%)**
- o Likely **10 (32.3%)**
- o Very likely **5 (16.1%)**

34. What might prevent you from participating in the program in the next five years? (please check one per row)

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
a. I am no longer involved in municipal land-use planning. n=30	15 (50.0%)	7 (23.3%)	2 (6.7%)	5 (16.7%)	1 (3.3%)
b. I don’t have the time. n=31	7 (22.6%)	5 (16.1%)	6 (19.4%)	12 (38.7%)	1 (3.2%)
c. I am not interested in learning more about habitat conservation in local land use planning. n=31	14 (45.2%)	15 (48.4%)	0 (0%)	2 (6.5%)	0 (0%)
d. I do not think it is important to conserve natural areas and wildlife. n=31	22 (71.0%)	8 (25.8%)	1 (3.2%)	0 (0%)	0 (0%)
e. I am already knowledgeable about habitat conservation in local land-use planning. n=30	4 (13.3%)	7 (23.3%)	13 (43.3%)	5 (16.7%)	1 (3.3%)
f. Other (please specify) [open-	1	0	1	1	1

ended] n=4	(25.0%)	(0%)	(25.0%)	(25.0%)	(25.0%)
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- **City mostly built out with little natural habitat areas**
- **Strong bias with preconceived ideas**

35. The following are other trainings and workshops that provide information about land-use decisions to protect natural resources. Please let us know if you have attended any of the following: (please check all that apply)

n=33

- o Pace Land-Use Leadership Alliance (LULA) Training **11 (33.3%)**
- o Hudson River National Estuarine Research Reserve workshops **3 (9.1%)**
- o Cornell Cooperative Extension workshops **11 (33.3%)**
- o County Soil and Water Conservation District workshops **10 (30.3%)**
- o County or Planning Federation workshops **19 (57.6%)**
- o Other [open-ended] **2**

(6.1%)

- **County stormwater coalition**
- **Hudsonia short course-ELLA workshops**

About You

36. What was your age, in years, on your last birthday? (please check one) **n=31**

- o Less than 35 **0 (0.0%)**
- o 35-44 **5 (16.1%)**
- o 45-54 **6 (19.4%)**
- o 55-64 **14 (45.2%)**
- o 65-74 **5 (16.1%)**
- o 75 or older **1 (3.2%)**

37. What is your gender? (please check one)

n=31

- o Male **17 (54.8%)**

o Female **14 (45.2%)**

38. What is the highest level of formal education you have attained? (please check one)

n=31

- o High school graduate **1 (3.2%)**
- o Some college or technical school **6 (19.4%)**
- o Bachelor's degree **11 (35.5%)**
- o Graduate or professional degree **13 (41.9%)**

39. Is there anything else you would like to add? Please use this space to share any additional comments. [\[open-ended\]](#)

- We're especially in need of existing biodiversity information as we create our Open Space Inventory.
- New York Planning Federation is used for our annual training. High costs for municipal services in our village make it a challenge to strengthen environmental policies, prevent sprawl and have a vibrant downtown.
- Within the last 5 years our board for the first time initiated the use of a consulting municipal planner who has assisted the board greatly in the attention to the issues that were the subject of this survey.
- Please share the general results of this survey with those who submit the surveys.

APPENDIX C: TELEPHONE SURVEY OF NON-RESPONDENTS

TO THE

PARTICIPANT AND NON-PARTICIPANT SURVEYS

Table 1. How long have you been involved in local land-use or conservation planning in a formal capacity?

	Participant Survey	
	Respondents	Non-respondents
Less than 1 year	2% (5)	3% (2)
1-4 years	22% (51)	21 % (14)
5-9 years	34% (81)	27% (18)
10-20 years	26% (61)	29% (19)
More than 20 years	16% (38)	20% (13)

Table 2. To what extent do you agree with the following statements? (SD=Strongly disagree, D=Disagree, N=Neutral, A)=Agree, SA=Strongly Agree

	Participant Survey									
	Respondents					Non-respondents				
	SD	D	N	A	SA	SD	D	N	A	SA
I have a personal responsibility to leave the earth in good condition for future generations	2% (6)	0% (0)	1% (3)	13% (32)	84% (205)	0% (0)	0% (0)	0% (0)	11% (7)	89% (59)
Natural areas like forests are important for maintaining clean air	2% (6)	0% (0)	1% (2)	12% (30)	85% (207)	0% (0)	0% (0)	0% (0)	6% (4)	94% (62)
Wetland are important for maintaining clean water	2% (6)	0% (0)	1% (2)	12% (30)	85% (208)	0% (0)	0% (0)	1% (1)	6% (4)	93% (61)
Natural areas provide important habitat for many species of plants and animals	2% (6)	0% (0)	1% (2)	10% (24)	87% (215)	0% (0)	0% (0)	1% (1)	9% (6)	89% (59)
Natural areas provide recreation opportunities like hiking, fishing, boating, hunting, and bird-watching.	2% (5)	1% (1)	13% (32)	32% (79)	52% (127)	0% (0)	0% (0)	0% (0)	15% (10)	85% (56)

Table 3. What kinds of assistance have you received from the Hudson River Estuary Program or which of their programs have you attended? (sorted by respondents)

	Participant Survey	
	Respondents % (n)	Non-respondents % (n)
Attended a presentation by Estuary Program/Hudsonia	41% (141)	53% (35)
Biodiversity Conservation Roundtable	30% (92)	26% (17)
Biodiversity Assessment Short Course (Hudsonia, 3-day)	29% (88)	44% (29)
Biodiversity Assessment Training (Hudsonia, 10-month)	25% (88)	33% (22)
Biodiversity Assessment Workshop (Hudsonia, 1-day)	17% (57)	17% (11)
Requested technical assistance (e.g., plan feedback)	15% (52)	24% (16)
Received an Estuary Grant	14% (46)	33% (22)
Planning for Nature in Your Community workshop	13% (49)	8% (5)
GIS Training (Cornell, 2-day)	12% (41)	9% (6)
Requested GIS data or assistance	11% (34)	26% (17)
Requested a habitat summary	8% (23)	15% (10)

Table 4. Socio-demographic information.

	Participant Survey	
	Respondents	Non-respondents
AGE		
Under 35	8% (16)	6% (4)
35-44	10% (21)	5% (3)
45-54	16% (32)	21% (14)
55-64	37% (75)	35% (23)
65-74	21% (43)	23% (15)
75 or older	7% (15)	11% (7)
EDUCATION		
High school graduate	2% (4)	5% (3)
Some college or technical school	8% (17)	18% (12)
Bachelor's degree	29% (59)	24% (16)
Graduate or professional degree	60% (122)	53% (35)
GENDER		
Male	50% (102)	51% (34)
Female	50% (101)	49% (32)

Table 1. How long have you been involved in local land-use or conservation planning in a formal capacity?

	NON-Participant Survey	
	Respondents	Non-respondents
Less than 1 year	2% (1)	0% (0)
1-4 years	17% (7)	12 % (3)
5-9 years	20% (8)	19% (5)
10-20 years	34% (14)	39% (10)
More than 20 years	27% (11)	31% (8)

Table 2. To what extent do you agree with the following statements? (SD=Strongly disagree, D=Disagree, N=Neutral, A)=Agree, SA=Strongly Agree

	NON-Participant Survey									
	Respondents					Non-respondents				
	SD	D	N	A	SA	SD	D	N	A	SA
I have a personal responsibility to leave the earth in good condition for future generations	0% (0)	0% (0)	5% (2)	37% (14)	58% (22)	0% (0)	0% (0)	0% (0)	50% (13)	50% (13)
Natural areas like forests are important for maintaining clean air	0% (0)	0% (0)	3% (1)	40% (15)	58% (22)	0% (0)	0% (0)	0% (0)	46% (12)	54% (14)
Wetland are important for maintaining clean water	0% (0)	3% (1)	5% (2)	37% (14)	61% (23)	0% (0)	0% (0)	0% (0)	42% (11)	58% (15)
Natural areas provide important habitat for many species of plants and animals	0% (0)	3% (1)	0% (0)	43% (16)	54% (20)	0% (0)	0% (0)	0% (0)	42% (11)	58% (15)
Natural areas provide recreation opportunities like hiking, fishing, boating, hunting, and bird-watching.	0% (0)	0% (0)	0% (0)	40% (15)	60% (23)	0% (0)	0% (0)	0% (0)	42% (11)	58% (15)

Table 3. Before now, had you heard of the Hudson River Estuary Program?

	NON-Participant Survey	
	Respondents	Non-respondents
Yes	72% (21)	65% (17)
No	28% (8)	35% (9)

Table 4. Were you aware that the Hudson River Estuary Program offered training and technical assistant to incorporate habitat conservation in local land-use planning and decision-making?

	NON-Participant Survey	
	Respondents	Non-respondents
Yes	40% (12)	59% (10)
No	60% (18)	41% (7)

Table 5. Socio-demographic information.

	NON-Participant Survey	
	Respondents	Non-respondents
AGE		
Under 35	0% (0)	4% (1)
35-44	16% (5)	11% (3)
45-54	19% (6)	19% (5)
55-64	45% (14)	19% (5)
65-74	16% (5)	34% (9)
75 or older	3% (1)	11% (3)
EDUCATION		
High school graduate	3% (1)	4%(1)
Some college or technical school	19% (6)	35% (9)
Bachelor's degree	36% (11)	27% (7)
Graduate or professional degree	42% (13)	35% (9)
GENDER		
Male	55% (17)	65% (17)
Female	45% (14)	35% (9)

APPENDIX D: NON-PARTICIPANT SURVEY RESULTS

Survey of HREP Non-Participants

In total, 31 non-participants completed the survey out of a possible 104 with valid email addresses, yielding a response rate of 29.8%. Additionally, 11 non-participants started the survey, answered at least one question, but did not complete it. These partially completed cases are also included as part of the final dataset; n=42, yielding a response rate of 40.4%.

Non-participants were asked to rate their attitudes toward the environment: respondents most strongly agreed with the recreation, scenery and clean air benefits of natural areas. Areas that were rated lowest were medicines derived from plants and animals, and the capacity of natural areas to help communities adapt to climate change.

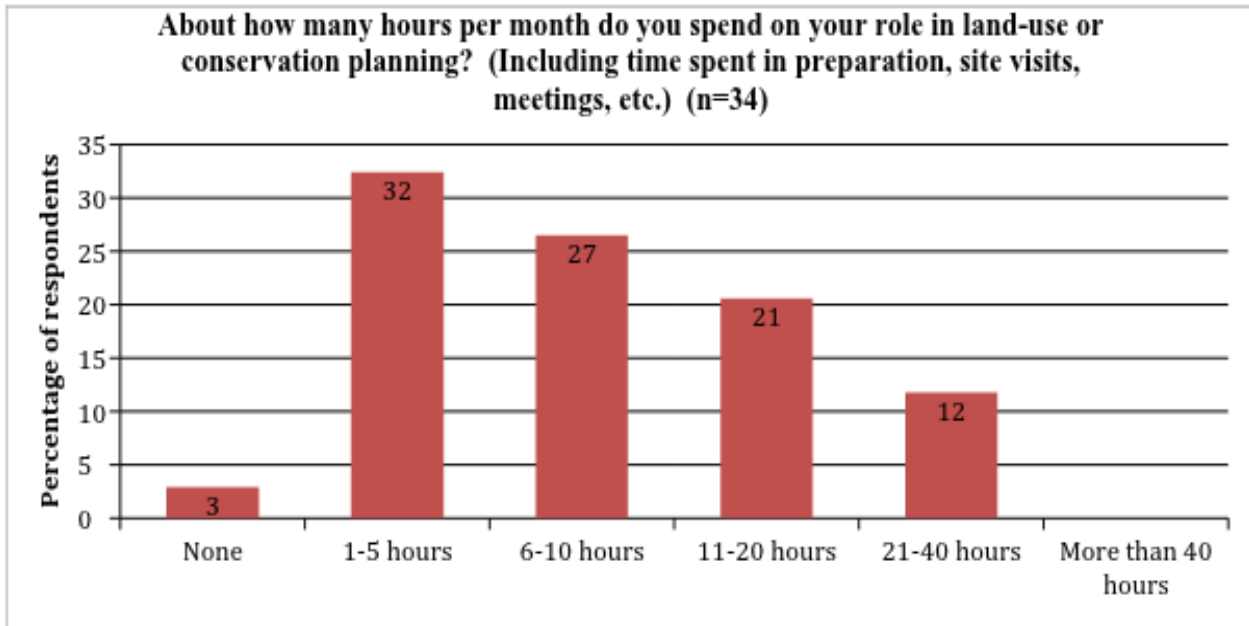
Table 1. Environmental Attitudes

Environmental Attitude	Mean Agreement* (n=38)
Natural areas provide recreation opportunities	4.61
Natural areas are important for clean air	4.55
Natural areas provide scenery	4.55
I have a personal responsibility to leave the earth in good condition	4.53
Natural areas provide important habitat for plants and animals	4.49
Natural areas are important for clean water	4.45
New medicines may be derived from plants and animals	4.14
Natural areas help communities adapt to climate change	4.05

**1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree*

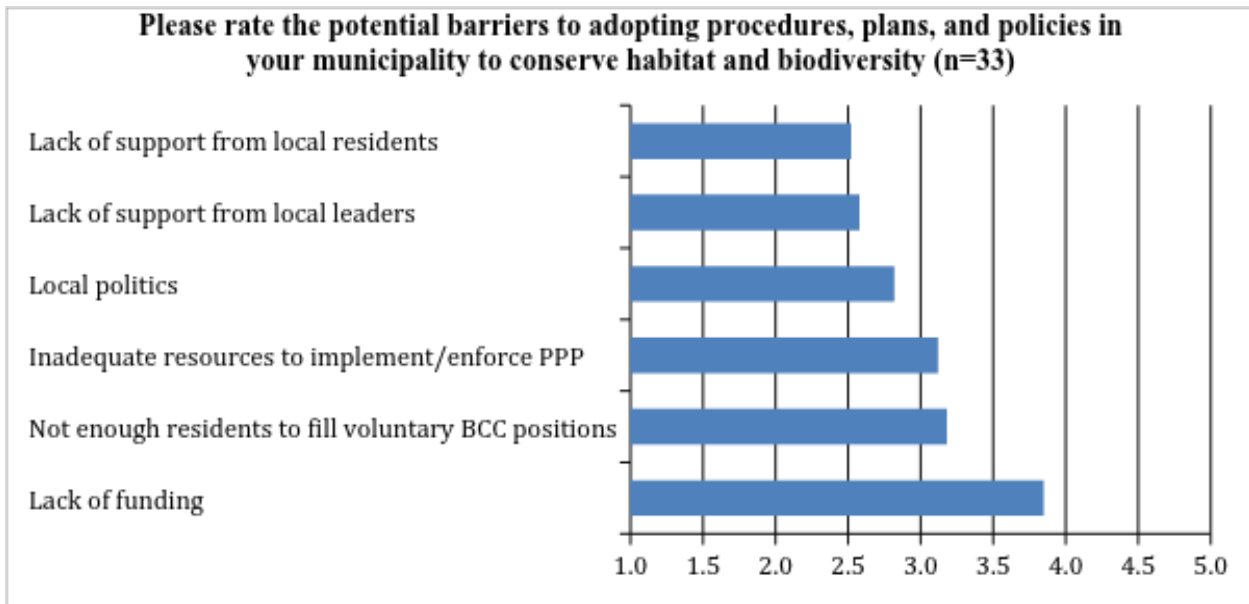
Non-participants were also asked about the time they spent on land-use or conservation planning. Of 34 respondents, almost one-third (32%) spent 1-5 hours, more than one-quarter (27%) spent 6-10 hours, and 21% spent 11-20 hours.

Figure 1. Time Spent on Land-use or Conservation Planning



Respondents were asked about the possible barriers their municipalities' faced in adopting procedures, plans and policies on habitat conservation and biodiversity. The most likely barrier identified by non-participants was lack of funding, followed by not having enough residents to fill voluntary board, commission and committee positions, and inadequate resources to implement or enforce procedures, plans and policies.

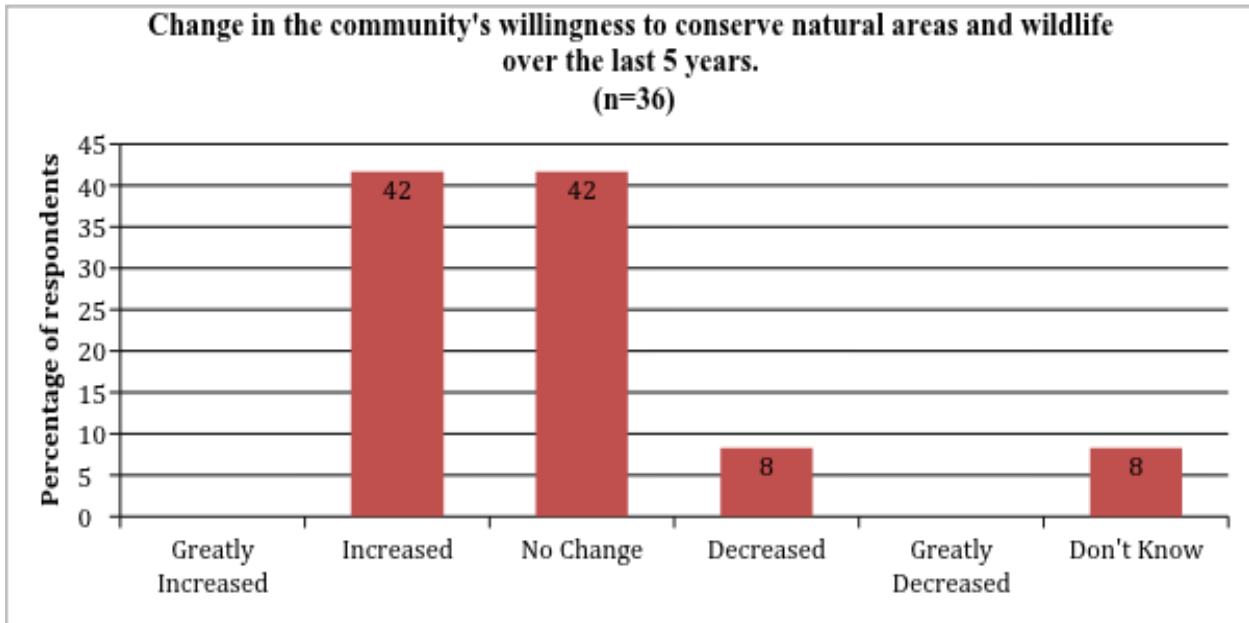
Figure 2. Potential Barriers to Adopting Procedures, Plans and Policies



*1=Definitely not at all a barrier, 2=Probably not a barrier, 3=Neutral, 4=Probably a barrier, 5=Definitely a barrier

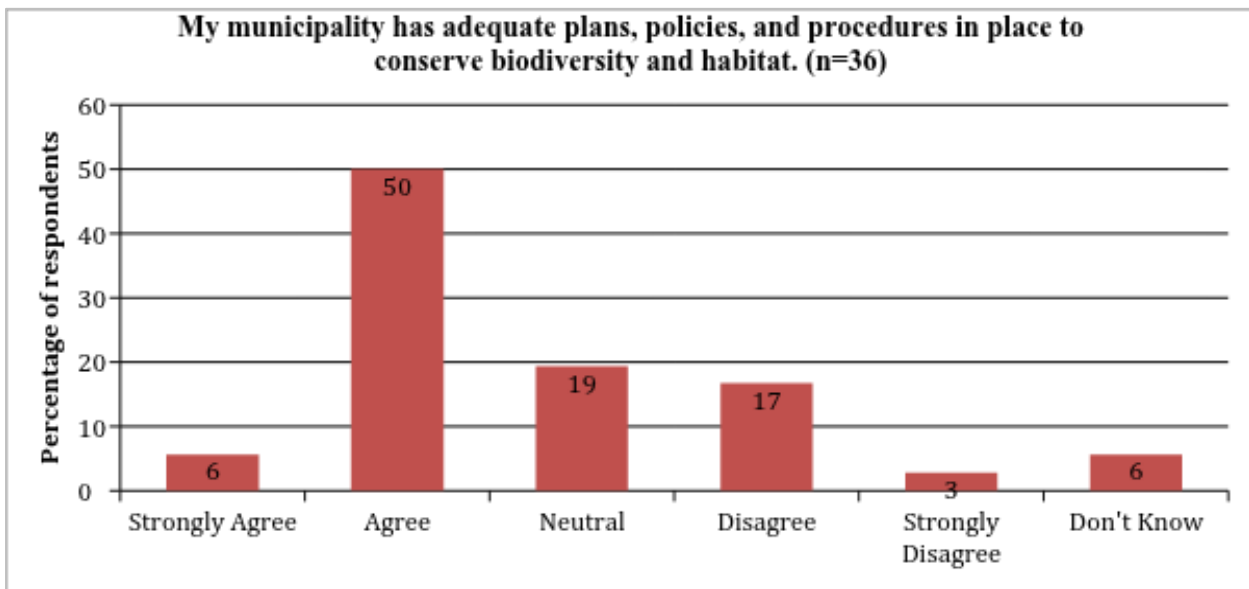
Non-participants were asked about the willingness of their communities to conserve natural areas and wildlife and whether it had changed over the last five years. Of 36 respondents, most felt their communities' willingness to conserve natural resources had increased (42%) or stayed the same (42%). 8% felt it had decreased, while another 8% did not know.

Figure 3. Community's Willingness to Conserve Natural Areas and Wildlife



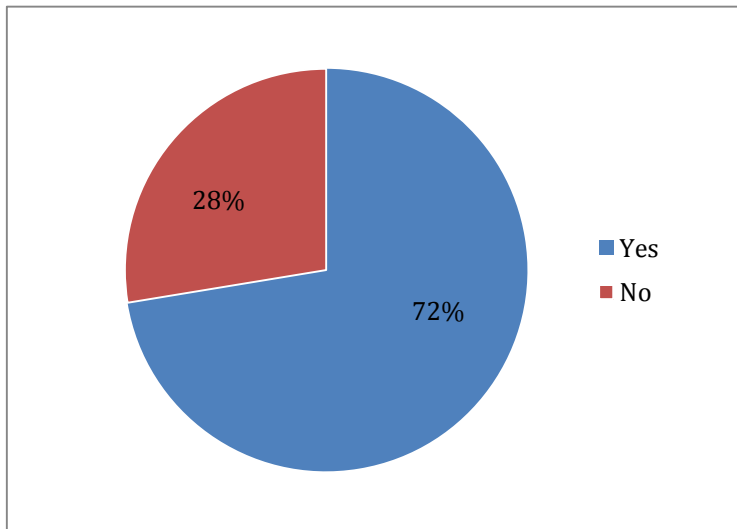
In response to the statement, “My municipality has adequate plans, policies and procedures in place to conserve habitat and biodiversity,” half of non-participants agreed, 19% were neutral, 17% disagreed, and 6% strongly agreed.

Figure 4. Municipality's Plans, Policies and Procedures for Conserving Biodiversity and Habitat



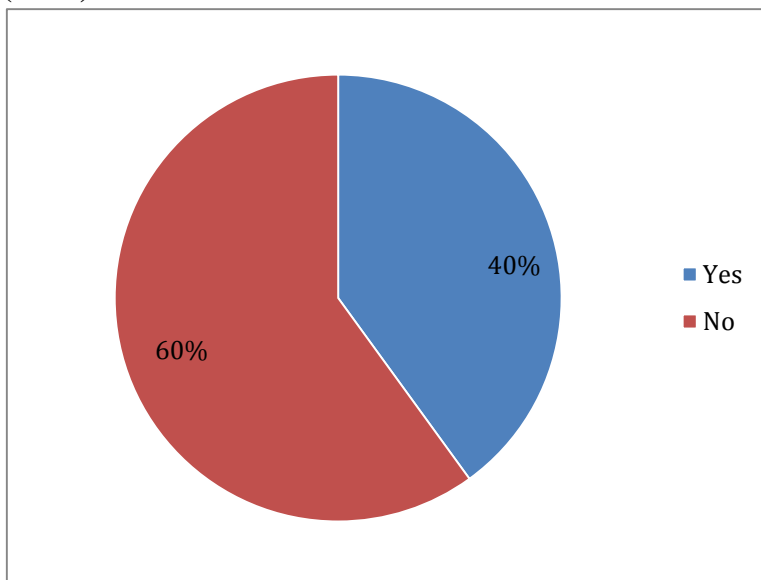
Non-participants were asked if they had heard of the Hudson River Estuary Program. The majority (72%) had heard of the Program, while 28% had not.

Figure 5. Before now, had you heard of the Hudson River Estuary Program?



Non-participants were also asked if they were aware that HREP offered training and technical assistance that incorporated habitat conservation in local land-use planning and decision-making. Only 40% were aware this type of training was offered by HREP.

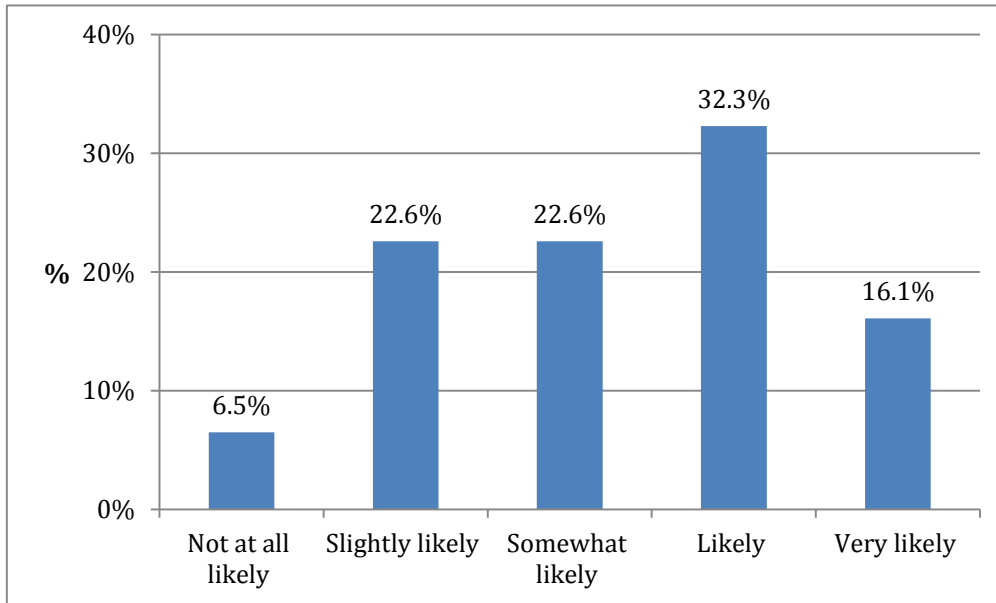
Figure 6. Were you aware that the Hudson River Estuary Program offered training and technical assistance to incorporate habitat conservation in local land-use planning and decision-making? (n=30)



Almost half of non-respondents would likely or very likely to participate Estuary Program's training or technical assistance in the next five years. Almost 23% stated they would be somewhat likely to attend,

while the remaining 29% were slightly or not at all likely to participate in training or technical assistance offered by HREP.

Figure 7. How likely are you to participate in the Estuary Program’s training or technical assistance in the next five years? (n=31)

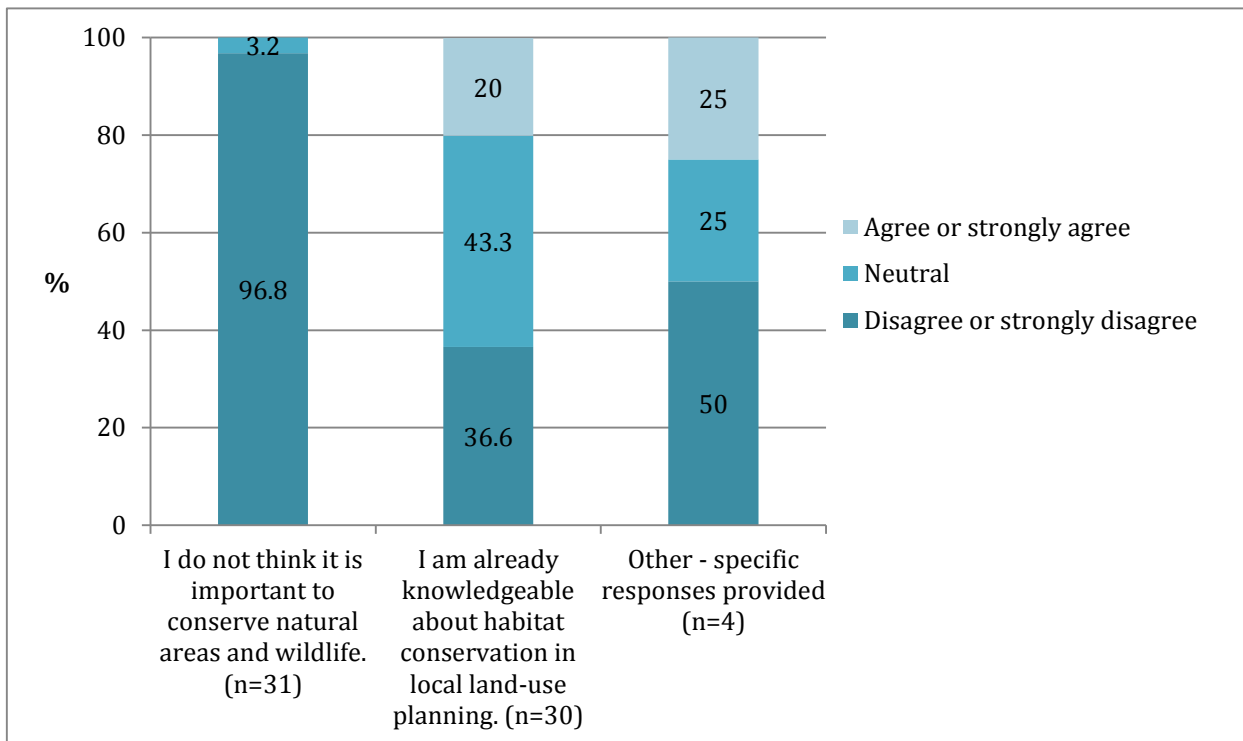
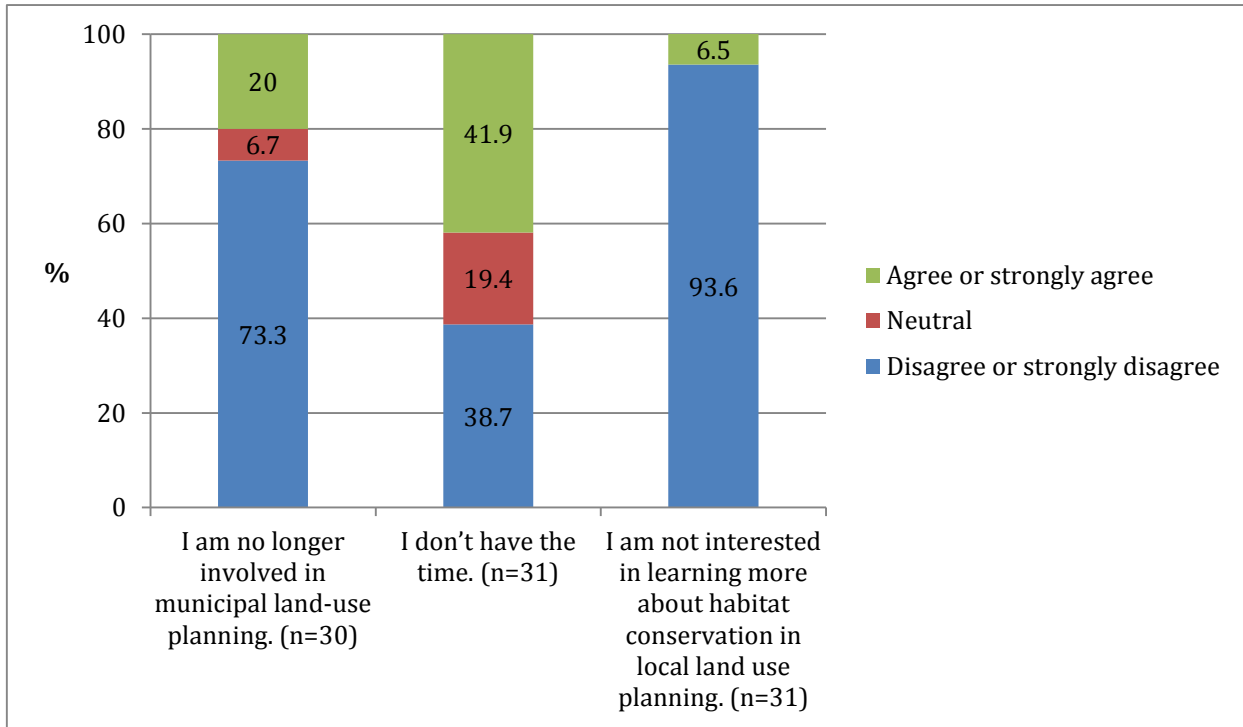


We wanted to know why non-participants be prevented from participating in HREP training in the next five years. Findings are outlined below:

- I am no longer involved in municipal land-use planning: 73% disagreed or strongly disagree; 20% agreed or strongly agreed.
- I don't have the time: 42% agreed or strongly disagree; 39% disagreed or strongly disagree.
- I am not interested in learning more about habitat conservation in local land use: The overwhelming majority (almost 94%) disagreed or strongly disagreed, while 6.5% agreed.
- I do not think it is important to conserve natural areas and wildlife: Almost all (97%) disagreed or strongly disagreed, while none agreed or strongly agreed.
- I am already knowledgeable about habitat conservation in local land-use planning: 20% agreed or strongly agreed, 43% were neutral, and 37% disagreed or strongly disagreed.

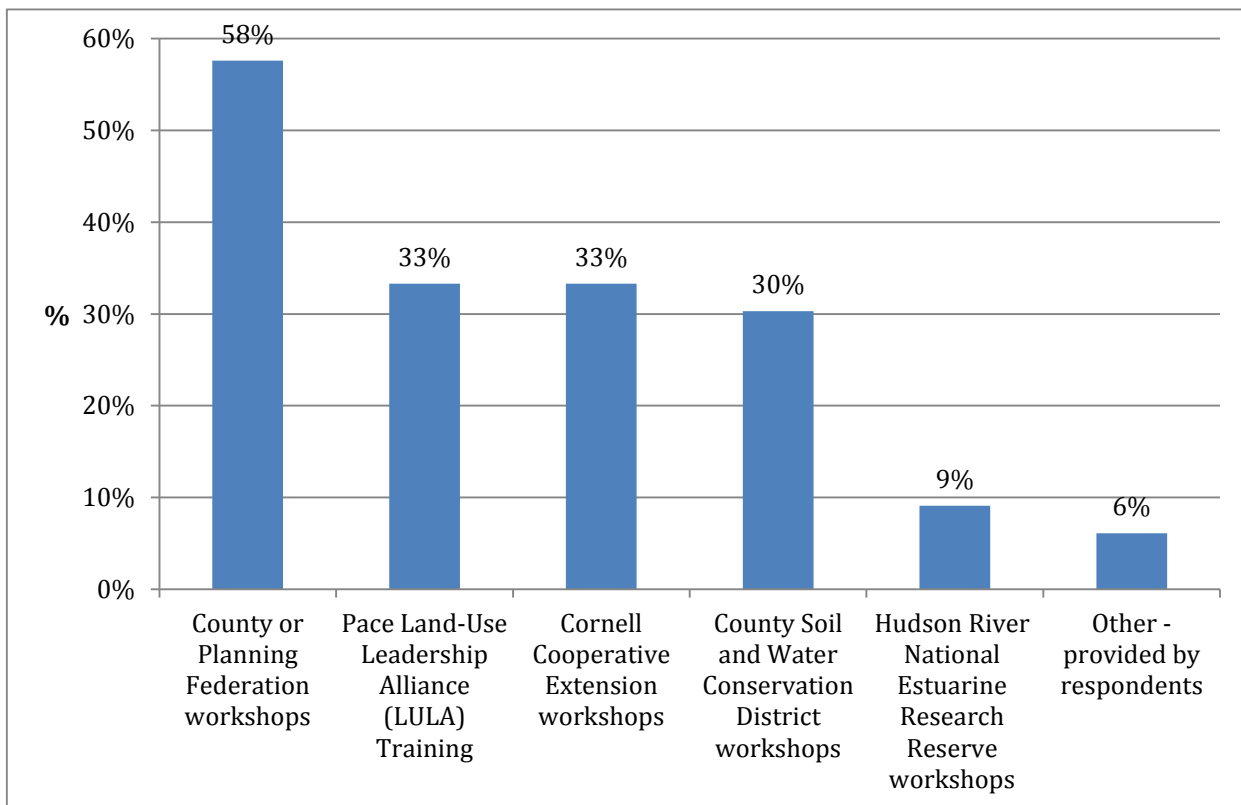
These results suggest that while non-participants are interested in learning more about habitat conservation in local land-use and believe conserving natural areas and wildlife is important, 42% cited limited time in preventing them from participating within the next five years. Also notable is that 73% are or continue to be involved in municipal land-use planning, and 37% disagreed or strongly disagreed they are already knowledgeable about habitat conservation in local land-use planning.

Figures 8a and 8b. What might prevent you from participating in the program in the next five years?



Non-participants were asked if they took part in *other* trainings and workshops about land-use decisions to protect natural resources. 58% attended County or Planning Federation workshops, while about one-third participated in a Pace Land-Use Leadership Alliance (LULA) Training (33%), Cornell Cooperative Extension workshop (33%), and/or County Soil and Water Conservation District workshop (30%). Nine-percent participated in a Hudson River National Estuarine Research Reserve workshop, while 6% listed other workshops, such as those sponsored by the county stormwater coalition and Hudsonia short course-ELLA workshops.

Figure 9. Other trainings and workshops that provide information about land-use decisions to protect natural resources attended by respondents. (n=33)



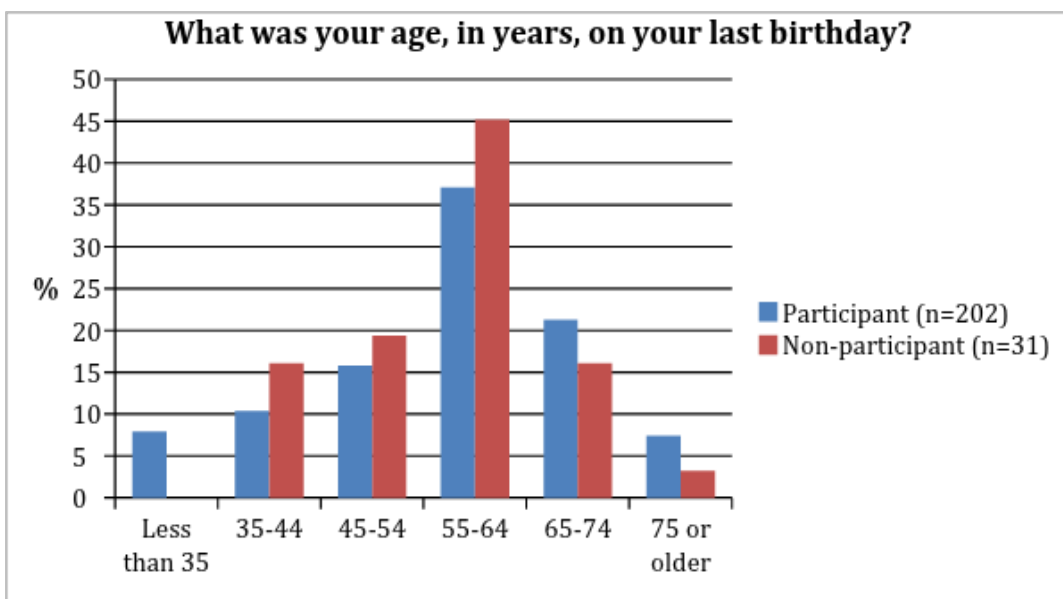
APPENDIX E: COMPARISON OF PARTICIPANT AND NON-PARTICIPANT SURVEY RESULTS

The following is a comparison of results from the survey of Biodiversity Outreach Program participants as well as those that have not participated in any Biodiversity Outreach Program offerings.

Socio-demographic Attributes

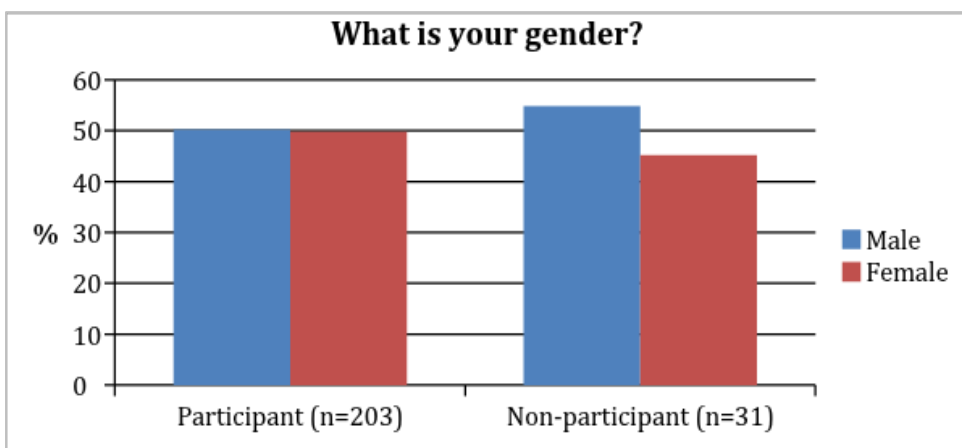
Both participants (37%) and non-participants (45%) were likely to be in the 55-64 age category. The primary age difference between the two groups was that there were no non-participants younger than 35 years of age.

Figure 1. Comparison of age between participants and non-participants



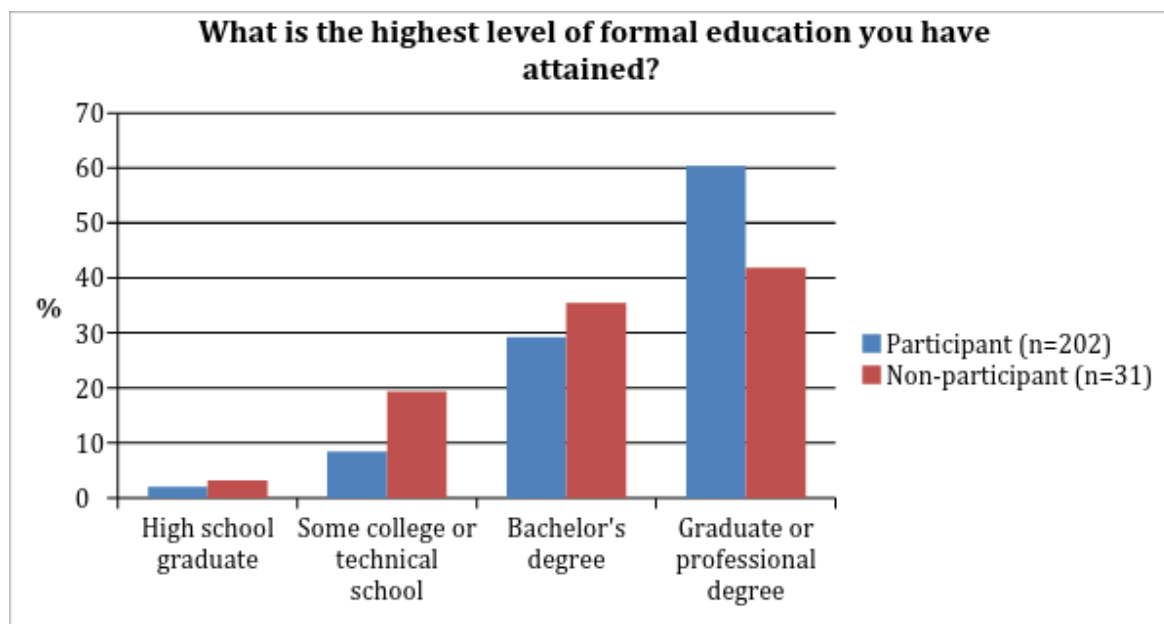
Participants were equally divided between male and females, with about 50% of each. For non-participants, a similar distribution was found, with slightly more males (55%) than females.

Figure 2. Gender comparison between participants and non-participants



The Biodiversity Outreach Program may attract those that have attained a graduate or professional degree (60% versus 42%, respectively). Twenty-nine percent of hold bachelor’s degrees, 8% some college or technical schooling, and 2% are high school graduates. For non-participants, 36% of non-participants hold bachelor’s degrees, 19% attained some college or technical schooling, and 3.2% are high school graduates.

Figure 3. Highest level of formal education attained between participants and non-participants



Environmental Attitudes

The majority of participants and non-participants agreed or strongly agreed that natural areas: provide natural habitat for plants and animals; contribute to clean air and clean water; and provide recreation and scenery. Both groups agreed or strongly agreed that they have a personal responsibility to leave the earth in good condition. Overall, a higher frequency of participants *strongly* agreed (77%) that natural areas are important compared to non-participants (53%).

Table 1a. Biodiversity Outreach Program participants’ environmental attitudes

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
Personal responsibility (n=245)	2% (5)	0% (0)	1.2% (3)	13.1% (32)	83.7% (205)
Natural areas important for clean air (n=245)	2.4% (6)	0% (0)	0.8% (2)	12.2% (30)	84.5% (207)
Natural areas important for clean water (n=246)	2.4% (6)	0% (0)	0.8% (2)	12.2% (30)	84.6% (208)
Natural areas provide scenery (n=245)	2.4% (6)	0% (0)	1.2% (3)	18% (44)	78.4% (192)

Natural areas help adaptation to climate change (n=244)	2.9% (7)	1.6% (4)	8.2% (20)	18.4% (45)	68.9% (168)
Natural areas provide important habitat (n=247)	2.4% (6)	0% (0)	0.8% (2)	9.7% (24)	87% (215)
Natural areas provide recreation (n=247)	2.4% (6)	0.4% (1)	1.6% (4)	17.4% (43)	78.1% (193)
New medicines may be derived from plants and animals (n=244)	2.0% (5)	0.4% (1)	13.1% (32)	32.4% (79)	52% (127)

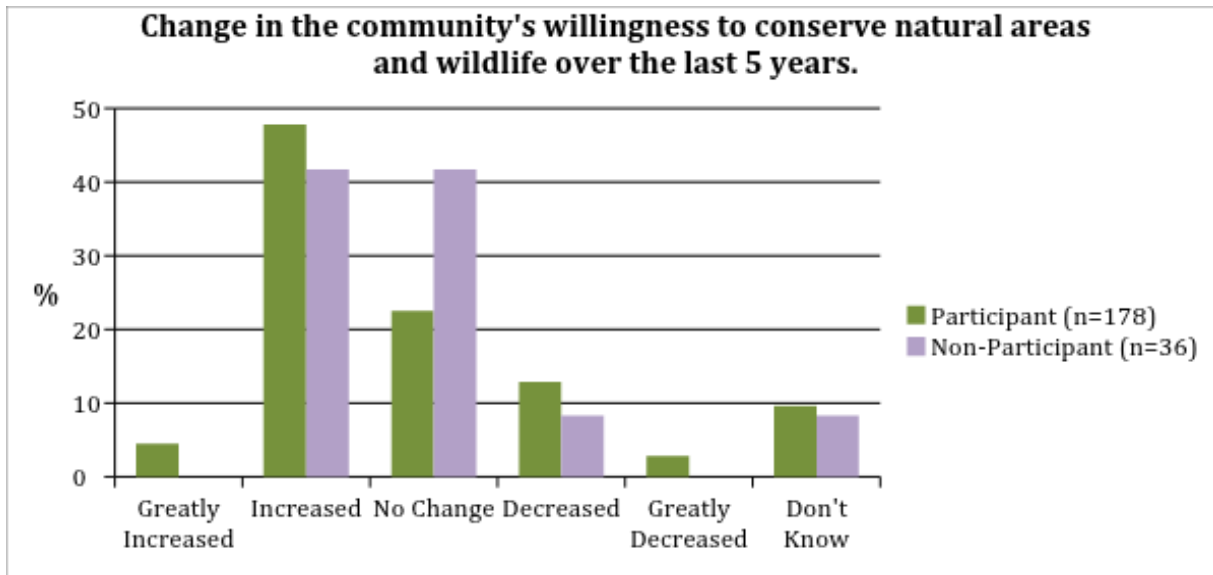
Table 1b. Non-participants' environmental attitudes

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
Personal responsibility (n=38)	0% (0)	0% (0)	5.3% (2)	36.8% (14)	57.9% (22)
Natural areas important for clean air (n=38)	0% (0)	0% (0)	2.6% (1)	39.5% (15)	57.9% (22)
Natural areas important for clean water (n=38)	0% (0)	2.6% (1)	5.3% (2)	36.8% (14)	55.3% (21)
Natural areas provide scenery (n=38)	0% (0)	2.6% (1)	0% (0)	36.8% (14)	60.5% (23)
Natural areas help adaptation to climate change (n=38)	0% (0)	5.3% (2)	21.1% (8)	36.8% (14)	36.8% (14)
Natural areas provide important habitat (n=37)	0% (0)	2.7% (1)	0% (0)	43.2% (16)	54.1% (20)
Natural areas provide recreation (n=38)	0% (0)	0% (0)	0% (0)	39.5% (15)	60.5% (23)
New medicines may be derived from plants and animals (n=36)	2.8% (1)	0% (0)	19.4% (7)	36.1% (13)	41.7% (15)

Communities' willingness to conserve natural areas and wildlife

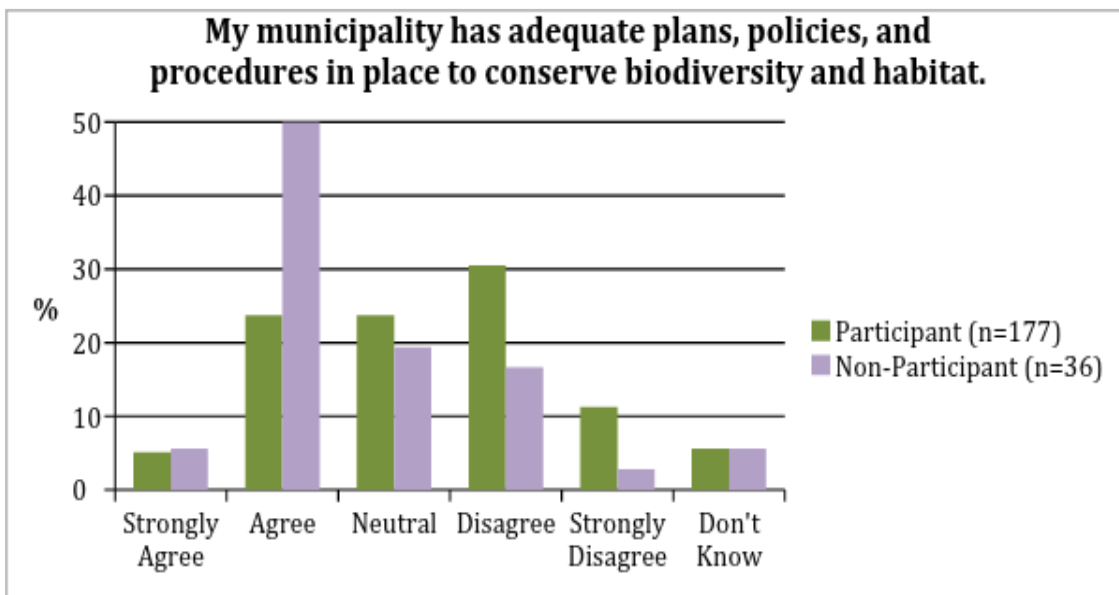
More than half (52%) of participants responded that their community's willingness to conserve natural areas and wildlife had increased or greatly increased over the last 5 years. For non-participants, 42% stated that their community's willingness had increased; none stated that their community's willingness had *greatly* increased. Almost 16% of Biodiversity Outreach Program participants stated their community's willingness had decreased or greatly decreased in the last 5 years, compared to 8% of non-participants.

Figure 4. Willingness of Communities to Conserve Natural Areas and Wildlife



Although they felt their communities may have been willing to conserve natural areas and wildlife, capacity is lacking: almost 42% of participants disagreed or strongly disagreed that their respective municipalities have adequate plans, policies and procedures in place to conserve biodiversity and habitat. In contrast, only 20% of non-participants disagreed or strongly disagreed with this statement. About 29% of participants agreed or strongly agreed that their municipalities have adequate plans in place to conserve biodiversity, versus more than half (56%) of non-participants. Overall, participants are more likely to feel their municipalities do not have adequate plans or policies in place to support biodiversity conservation.

Figure 5. Municipality plans, policies and procedures to conserve biodiversity and habitat

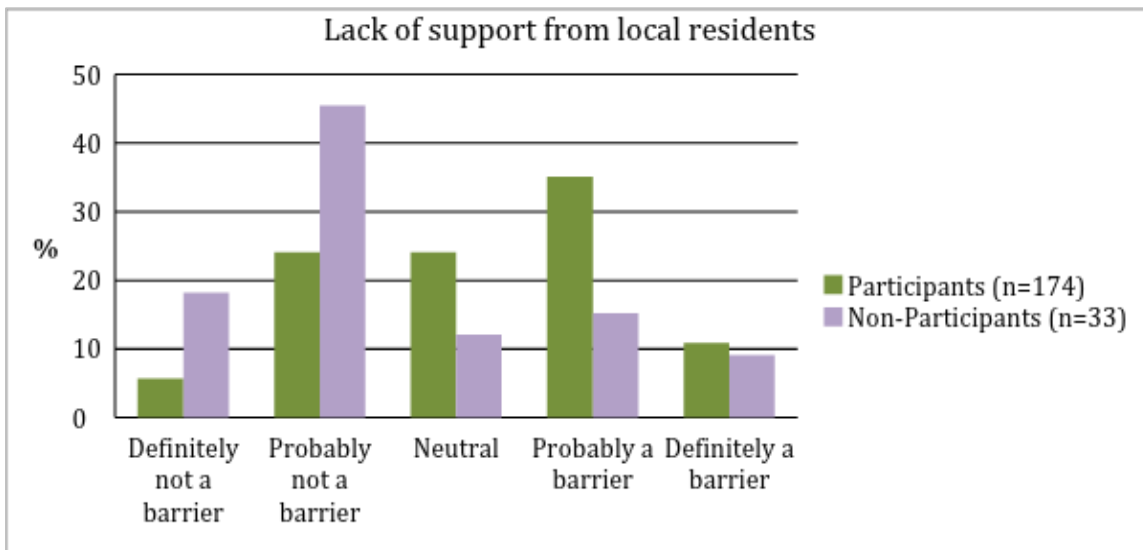


Barriers to adopting habitat conservation and biodiversity plans, policies and procedures

We were interested to learn how participants and non-participants responded to potential barriers to their municipalities' adoption of plans, policies and procedures to conserve habitat and biodiversity. The following six graphs relate to these barriers.

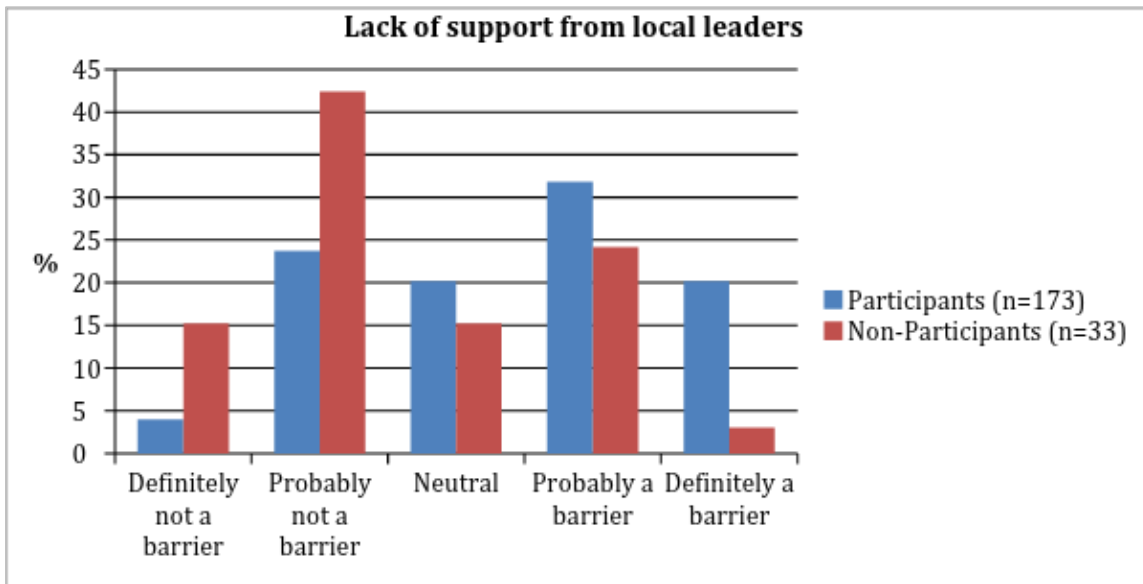
Almost half (46%) of participants identified lack of support from local residents as 'probably' or 'definitely' a barrier, compared with 24% of non-participants. Conversely, almost 64% of non-participants responded that lack of support from local residents was probably or definitely *not* a barrier, versus 30% of BOP participants.

Figure 6. Lack of support from residents



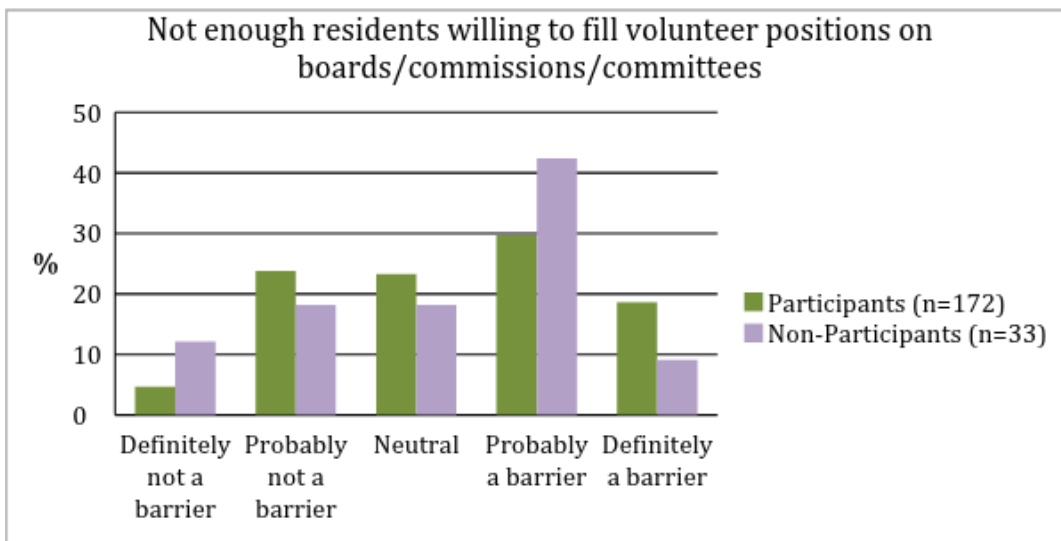
Consistent with the last finding, 50% of participants believed lack of support from local leaders is 'probably' or 'definitely' a barrier, compared with 27% of non-participants. 58% of non-participants responded that lack of support from leaders probably or definitely is *not* a barrier, compared with 28% of participants.

Figure 7. Lack of support from local leaders



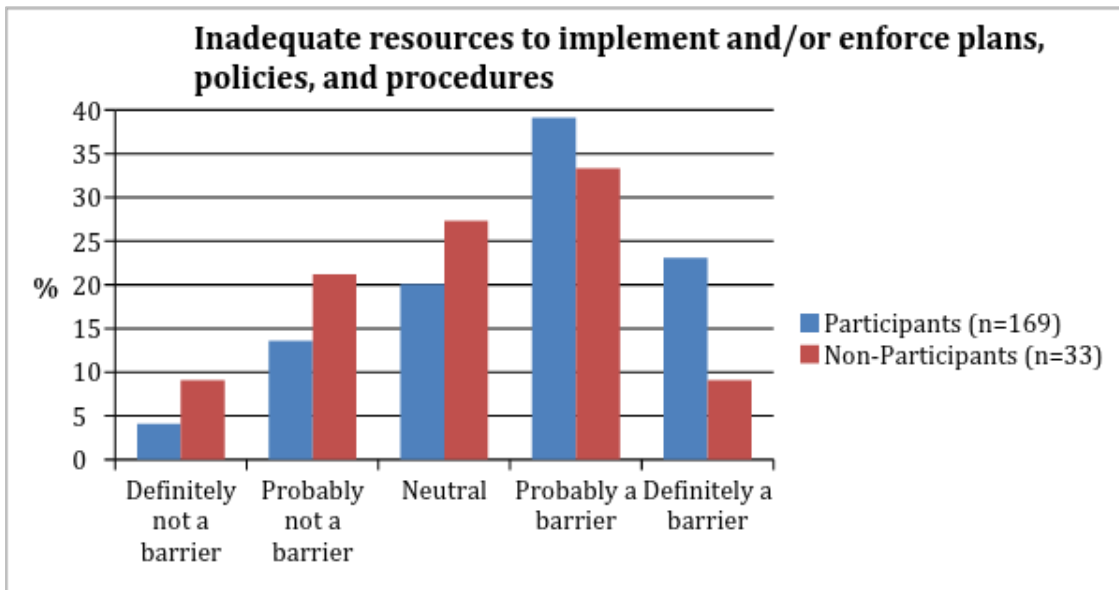
About half of participants (48%) and non-participants (52%) believed residents’ unwillingness to fill volunteer positions is ‘probably’ or ‘definitely’ a barrier to municipalities’ adoption of plans to conserve habitat and biodiversity. 29% of participants and 30% of non-participants felt that residents’ unwillingness to volunteer on boards is probably or definitely *not* a barrier.

Figure 8. Residents unwilling to fill volunteer positions



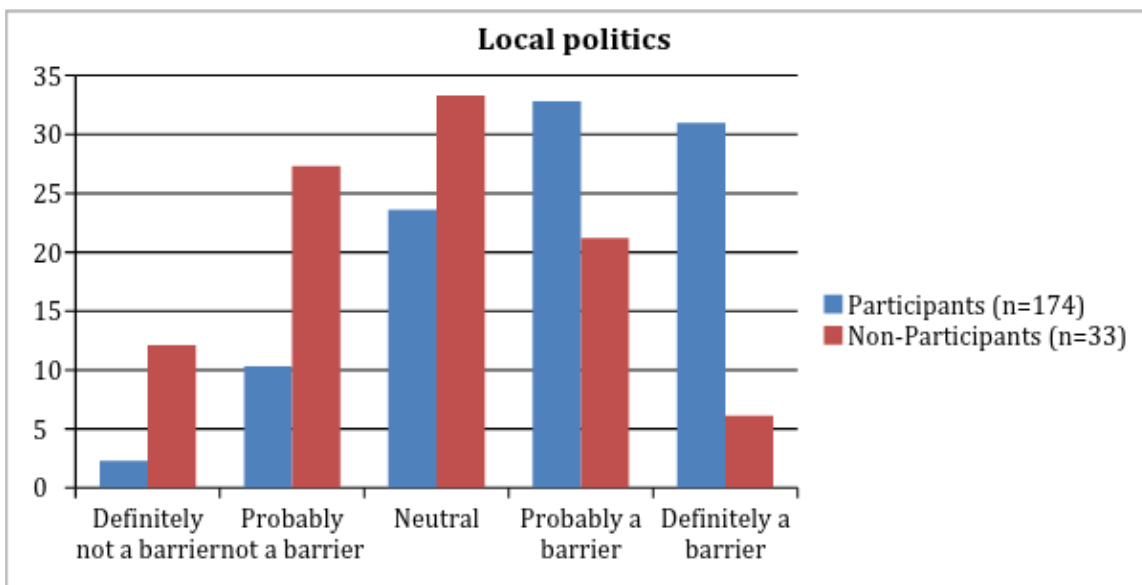
62% of participants reported inadequate resources to implement and/or enforce plans, policies and procedures as ‘probably’ or ‘definitely’ a barrier, compared with 42% of non-participants. About 18% of participants felt that inadequate resources are probably or definitely *not* a barrier (municipalities have adequate resources), compared with 30% of non-participants.

Figure 9. Inadequate resources to implement/enforce plans, policies and procedures



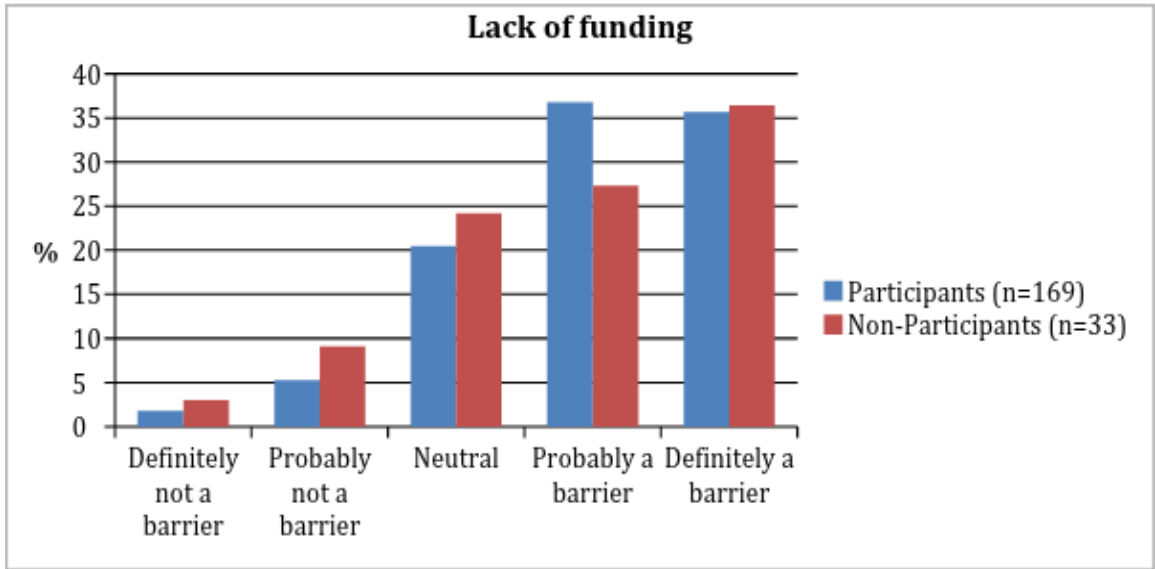
Participants are more than twice as likely (64%) than non-participants (27%) to consider local politics ‘probably’ or ‘definitely’ a barrier.

Figure 10. Local politics



Both participants and non-participants identified lack of funding as a barrier. 73% of participants and 64% of non-participants considered funding as ‘probably’ or ‘definitely’ a barrier.

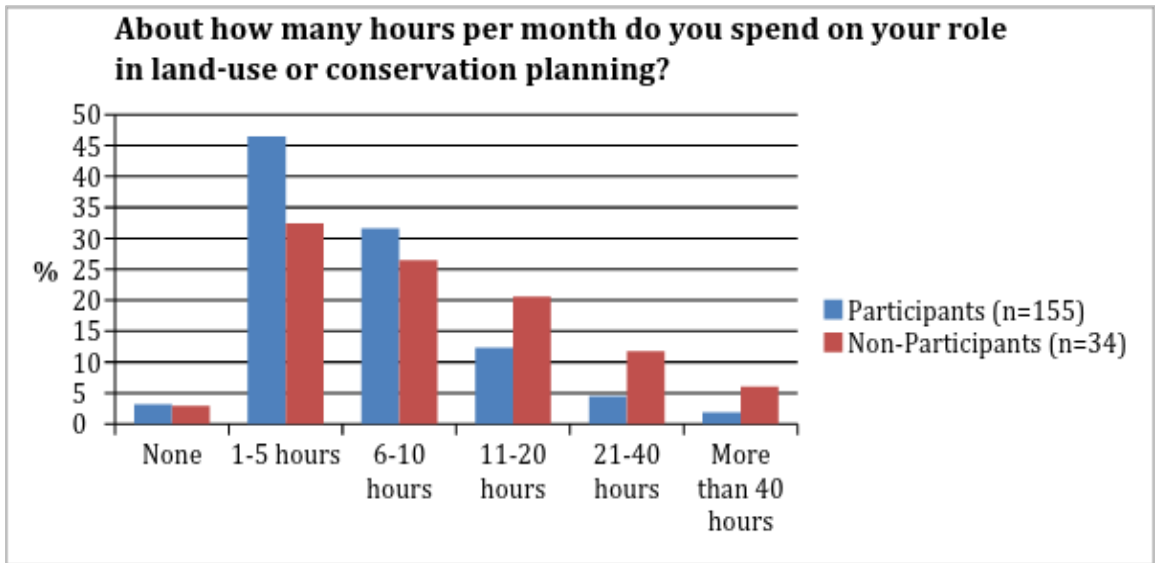
Figure 11. Lack of funding



Time Spent on Conservation

We also wanted to learn how much time each group of respondents spent in land-use or conservation planning, which included time spent in preparation, site visits, meetings, etc. While 78% of participants and about 60% of non-participants spent 1-10 hours per month on land-use or conservation planning, a larger percent of non-participants (38%) spent 11 hours or more per month, compared with participants (19%).

Figure 12. Amount of time spent on land-use or conservation planning

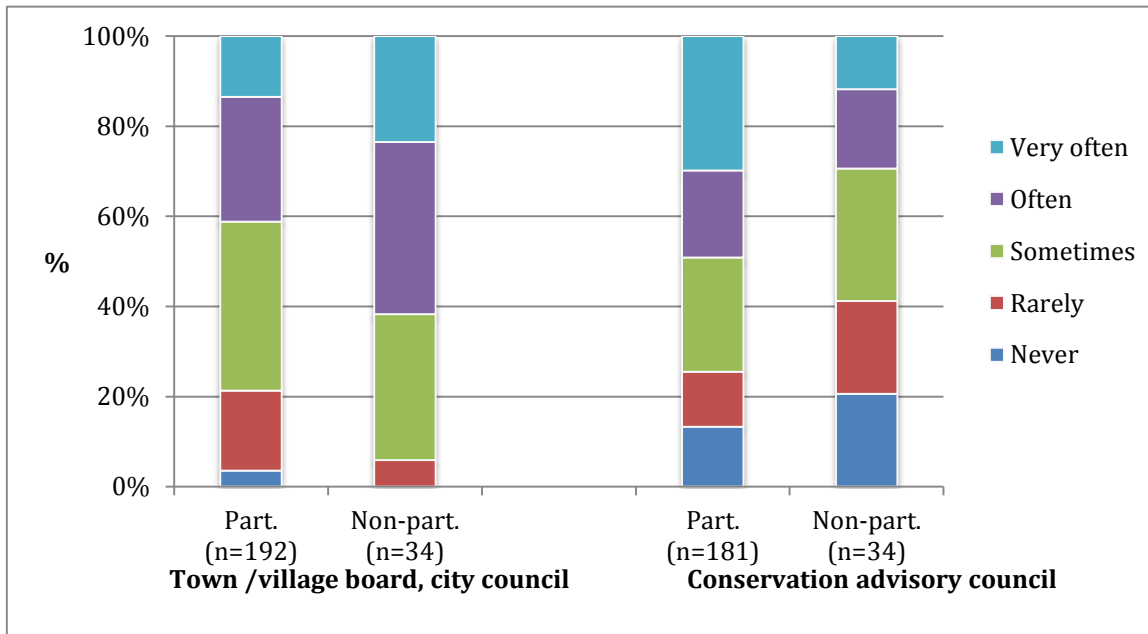


Interaction with other agencies

In the course of their land-use or conservation planning work, respondents were asked how often they interacted with the following groups or audiences:

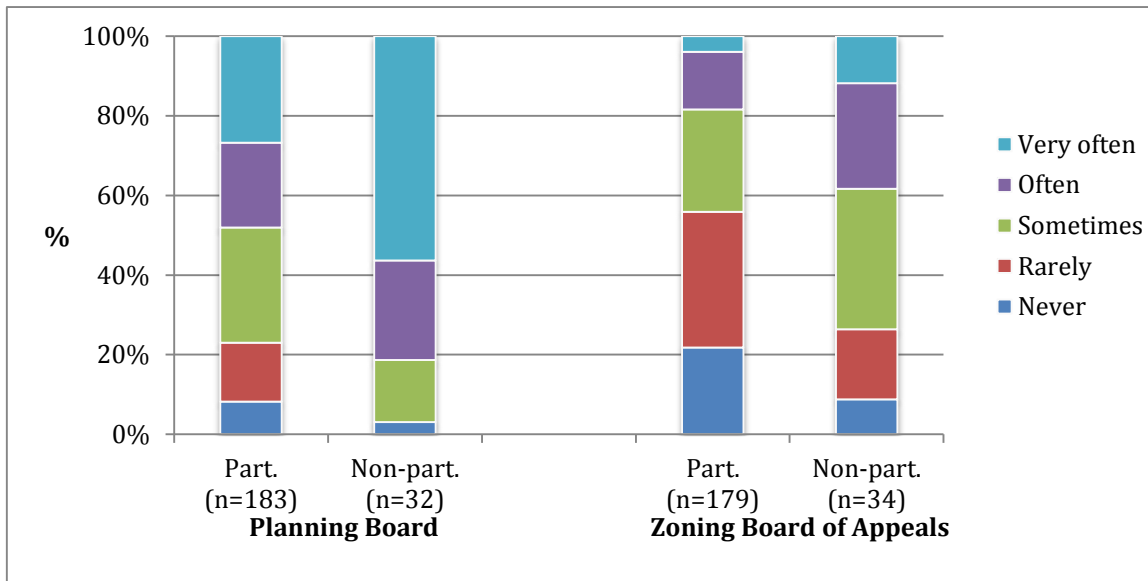
- Town board, village board or city council: 41% of Biodiversity Outreach Program participants often or very often interacted with these boards/councils, versus 62% of non-participants. 55% of participants sometimes or rarely interacted these groups, versus 38% of non-participants.
- Conservation advisory council, board or environmental commission: About half (49%) of participants and 30% of non-participants often or very often interacted with these audiences. About 38% sometimes or rarely interacted with these groups, compared with 50% of non-participants.

Figure 13. In the course of your land-use or conservation planning work, how often do you interact with the following?



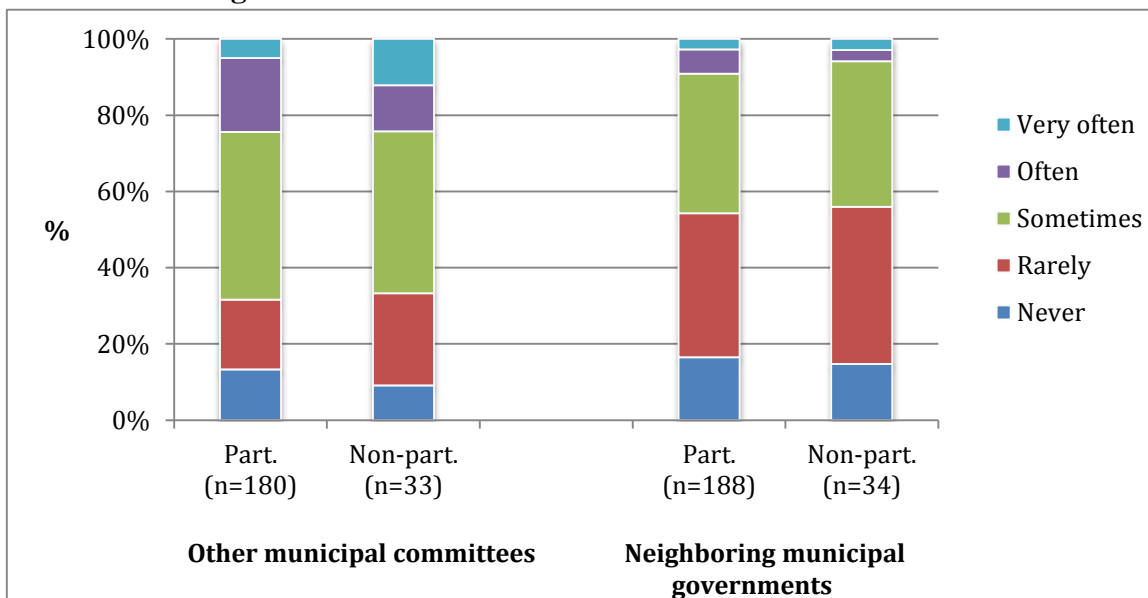
- Planning board: Half of participants (48%) and 81% of non-participants interacted with the planning board often or very often.
- Zoning board of appeals: Among Biodiversity Outreach Program participants, only 18% interacted with this board often or very often, 26% sometimes interacted with them, while almost 56% rarely or never interacted. For non-participants, 38% interacted with this audience often or very often, 35% sometimes interacted with them, while 26% rarely or never interacted with the zoning board of appeals.

Figure 14. In the course of your land-use or conservation planning work, how often do you interact with the following?



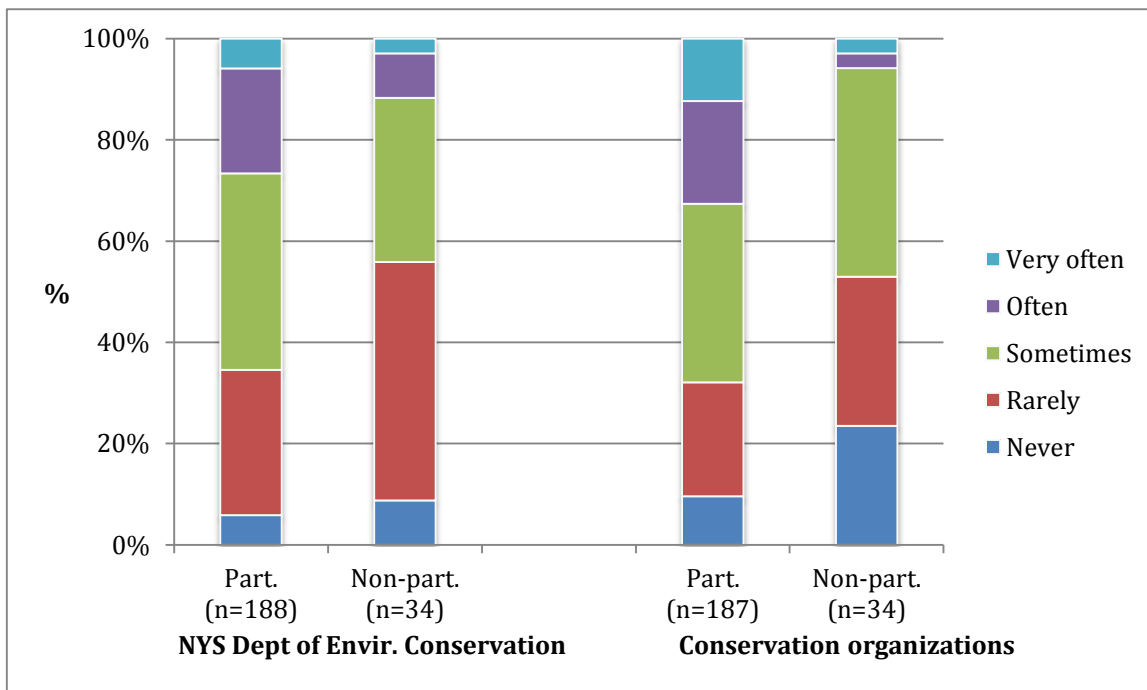
- Other municipal communities (e.g., comprehensive plan, trails, open space): Both participants and non-participants had similar responses: 24% of each group interacted with other municipal communities often or very often; 44% of Biodiversity Outreach Program participants and 42% of non-participants sometimes interacted with them.
- Neighboring municipal governments: Both participants (54%) and non-participants (56%) rarely or never interacted with neighboring municipal governments.

Figure 15. In the course of your land-use or conservation planning work, how often do you interact with the following?



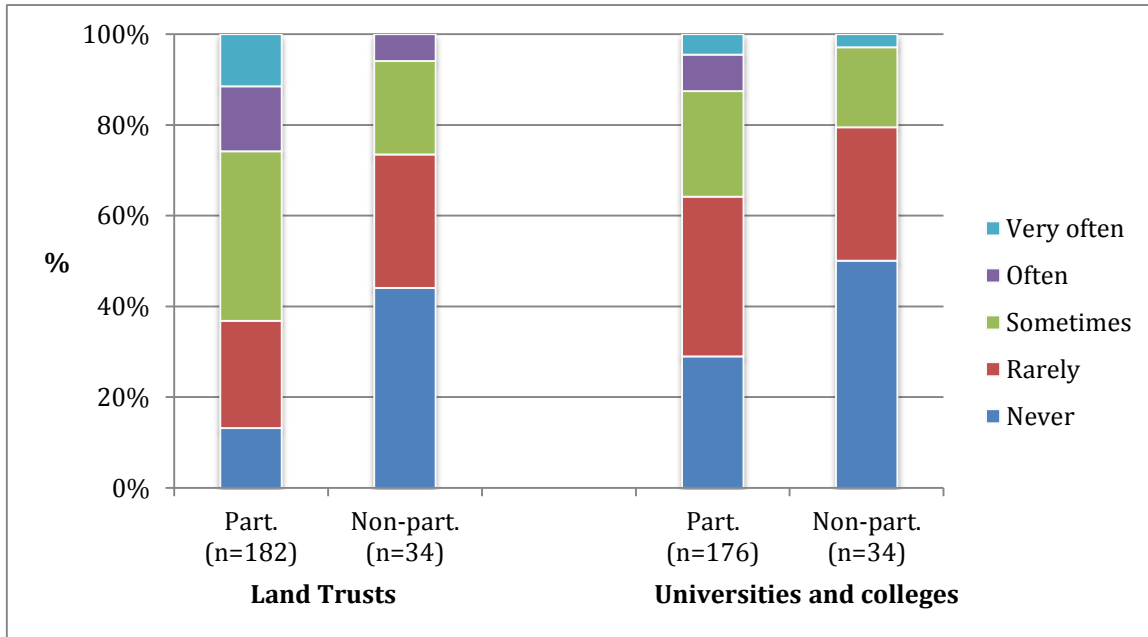
- NYS Department of Environmental Conservation: 27% of participants interacted with this audience often or very often, compared with non-participants (12%). Among participants, 35% rarely or never interacted with NYS DEC, compared to 56% of non-participants.
- Conservation organizations: About one-third (33%) of participants often or very often interacted with this audience, while another third rarely or never interacted with conservation organizations. In contrast, 6% of non-participants often or very often interacted with this audience, while more than half (53%) rarely or never interacted with them.

Figure 16. In the course of your land-use or conservation planning work, how often do you interact with the following?



- Land trusts: 26% of participants interacted with land trusts often or very often, while 37% rarely or never interacted with them. In contrast, only 6% of non-participants interacted with these audiences often, while almost 74% of non-participants rarely or never interacted with land trusts.
- Universities and colleges: A majority of participants (64%) and non-participants (80%) rarely or never interacted with universities and colleges. For participants, 13% often or very often interacted with this audience, while 3% of non-participants very often interacted with universities and colleges.

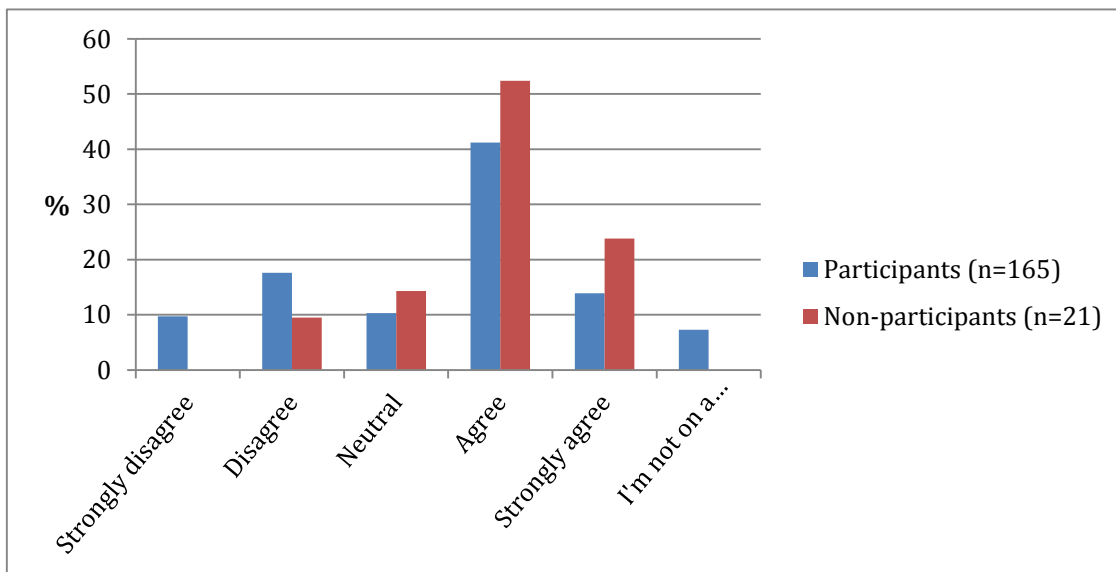
Figure 17. In the course of your land-use or conservation planning work, how often do you interact with the following?



Barriers related to municipal boards/commissions/committees (BCC)

55% of participants and 76% non-participants agreed or strongly agreed that their respective municipal boards/commissions/committees (BCC) have enough members to carry out their goals. 27% of participants disagreed or strongly disagreed, while about 10% of non-participants disagreed.

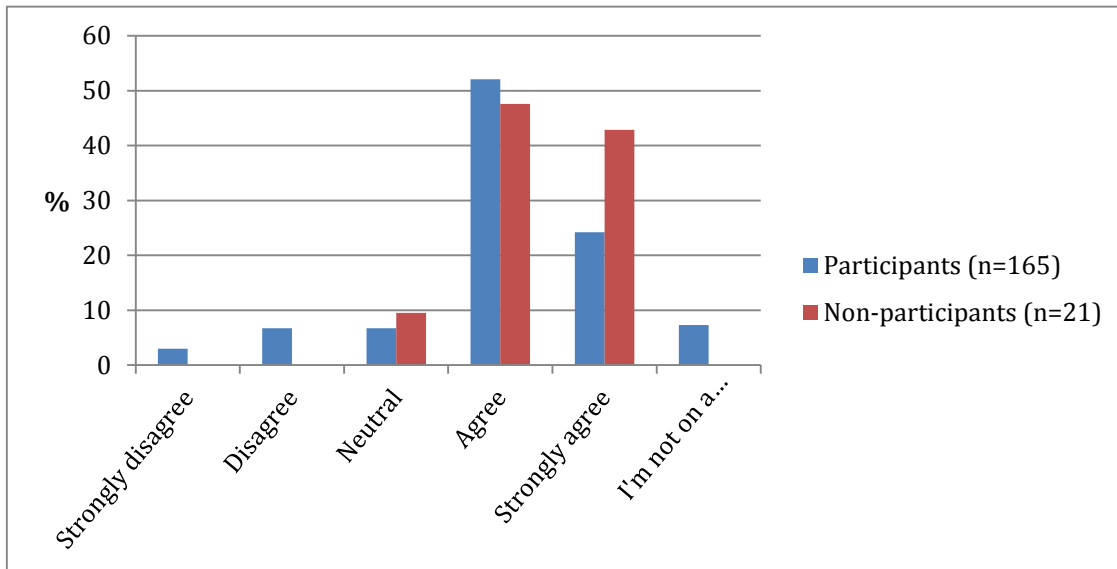
Figure 18. My municipal board/commission/committee has enough members to carry out its goals



More than three-quarters of participants and 90% of non-participants agreed or strongly agreed with the statement, "My municipal board/commission/committee colleagues and I work well together." 10% of

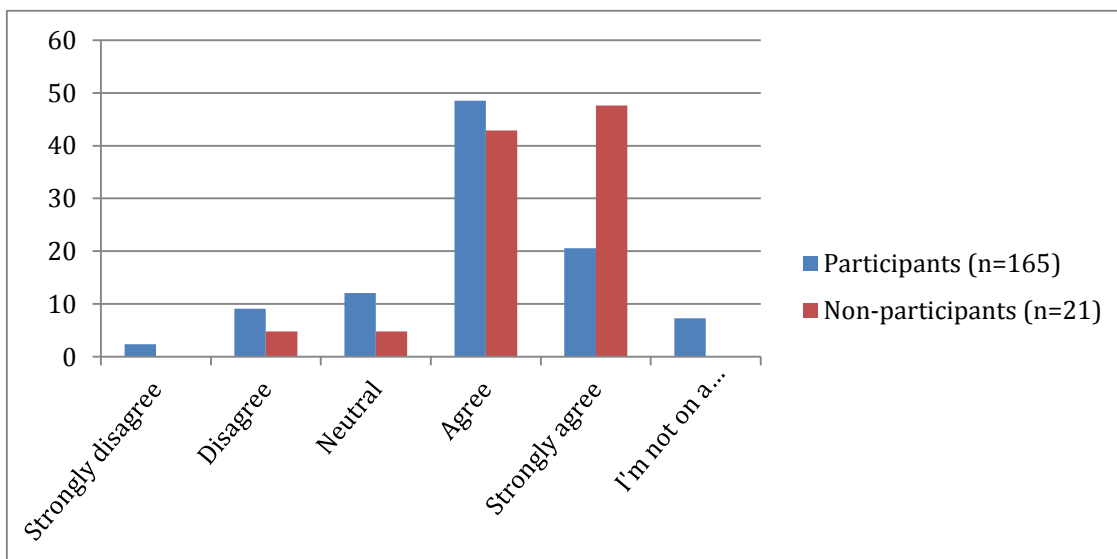
participants disagreed or strongly disagreed with the statement, while none of the non-participants disagreed or strongly disagreed.

Figure 19. My municipal board/commission/committee colleagues and I work well together



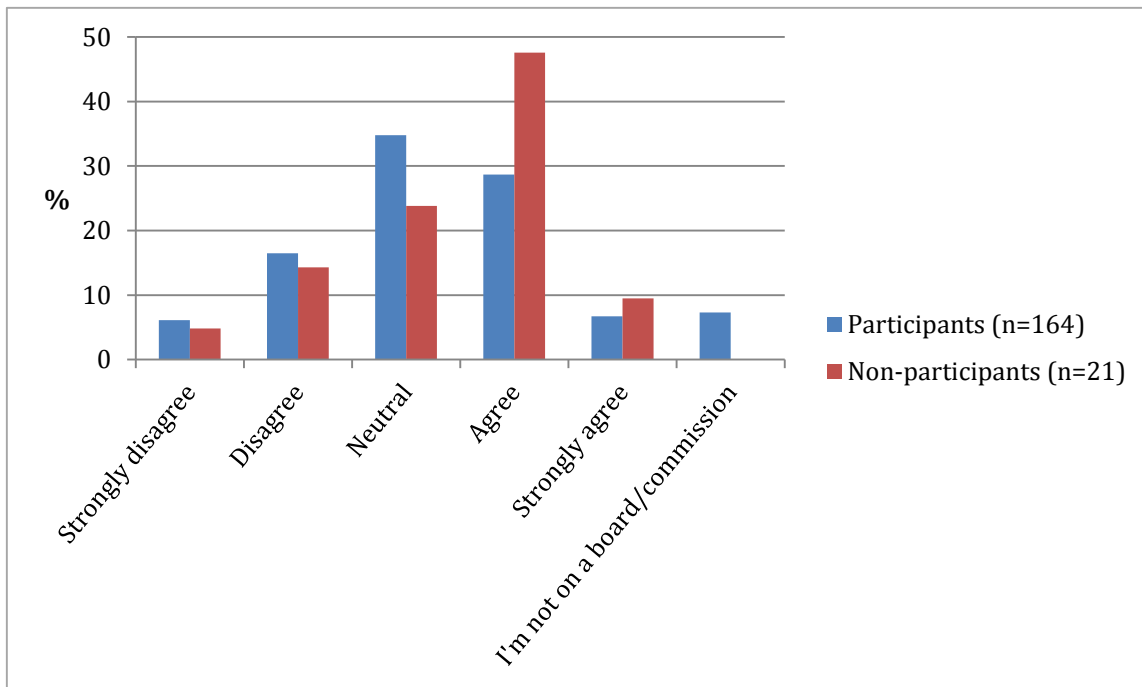
Almost half (48%) of non-participants strongly agreed with the statement “my colleagues trust each other”, while 21% of participants strongly agreed. 49% of participants and 43% of non-participants agreed with the statement on trust.

Figure 20. My municipal board/commission/committee colleagues trust each other



In response to the statement, “My municipal board/commission/committee colleagues trust out municipal elected officials,” 35% of participants and 57% of non-participants agreed or strongly agreed with the statement. 23% of participants and 19% of non-participants disagreed or strongly disagreed.

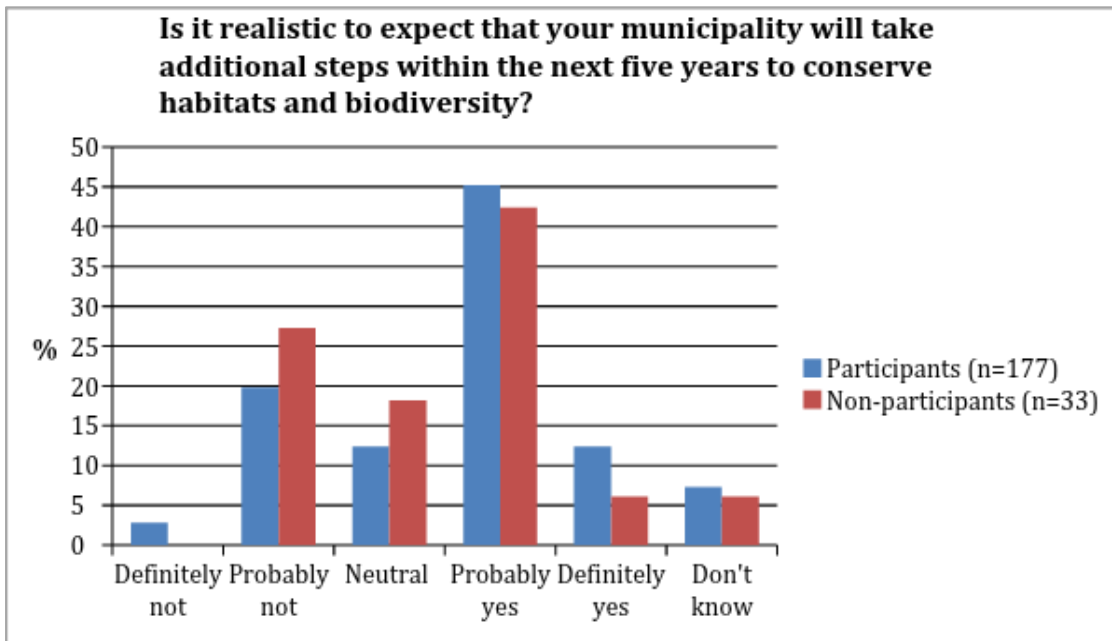
Figure 21. My municipal board/commission/committee colleagues trust our municipal elected officials



Future conservation action

A majority of participants (58%) and half of non-participants (50%) responded that it is ‘probably’ or ‘definitely’ realistic to expect that their municipalities will take additional steps to conserve habitats and biodiversity in the next five year. Only 23% of participants and 27% of non-participants feel that it is probably or definitely *not* realistic to expect that municipalities will these take additional steps.

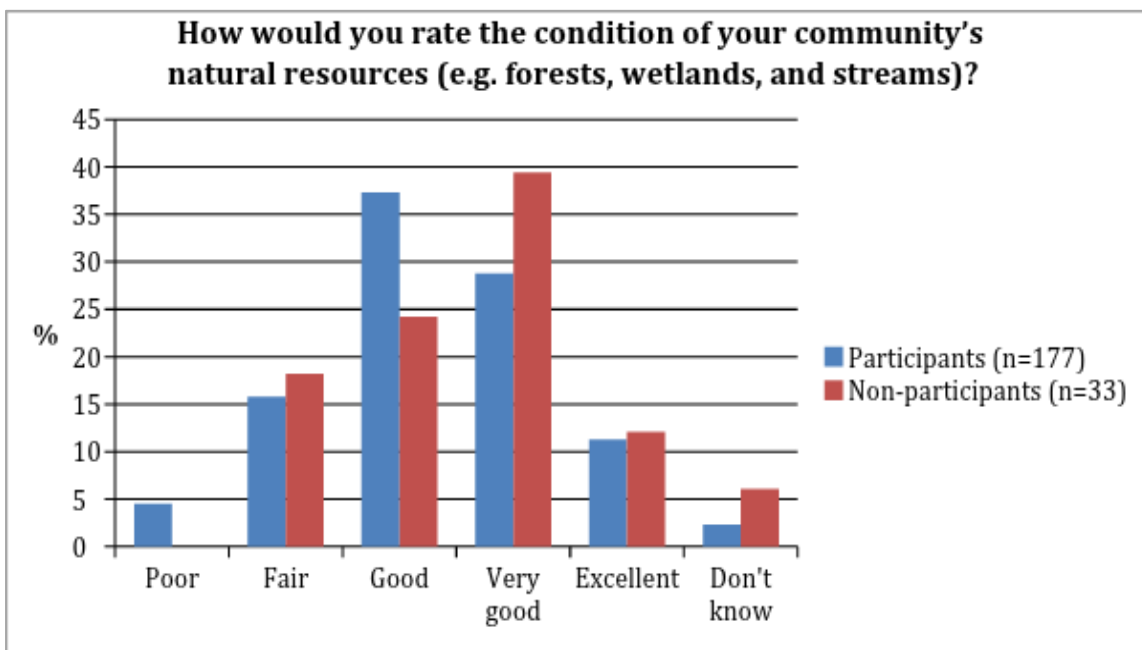
Figure 22. Future steps of municipality to conserve habitats and biodiversity



Current and past condition of natural resources

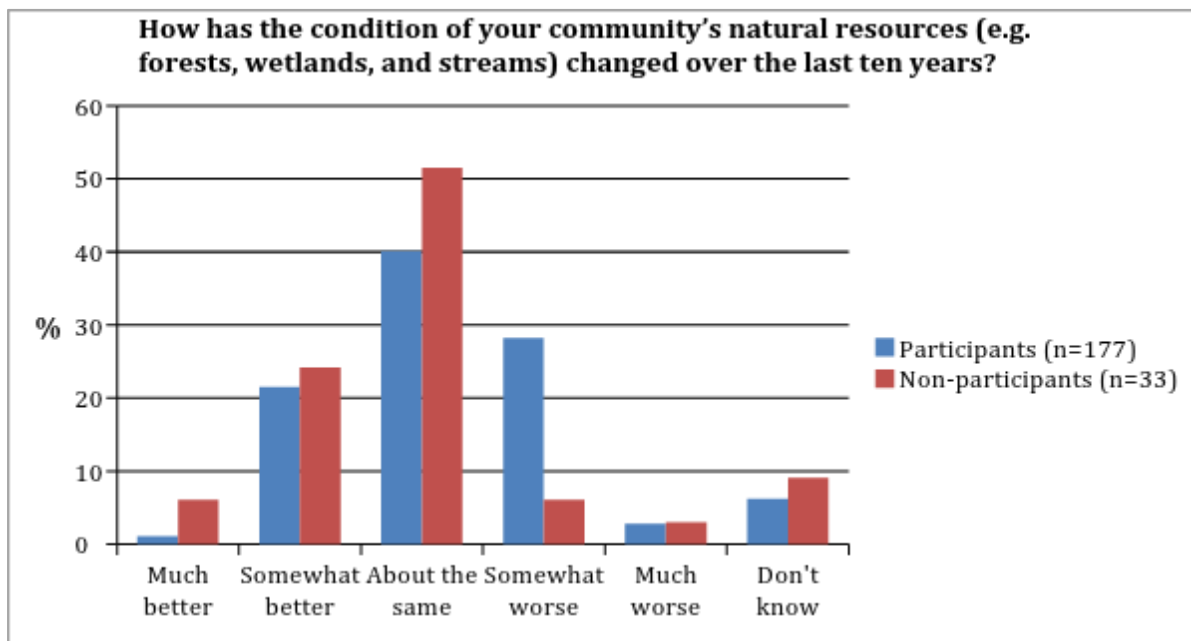
In response to a question about the condition of their community’s natural resources such as forests, wetlands and streams, 40% of participants rated the condition as very good or excellent, compared to almost 52% of non-participants. 37% of participants rated the condition as good, while 24% of non-participants did so.

Figure 23. Current condition of natural resources in the community



The largest percentages of participants (40%) and non-participants (52%) felt that the condition of their community’s natural resources has remained the same over the last 10 years. About 28% of participants felt the natural resources were somewhat worse, while 22% felt they were somewhat better. In comparison, only 6% of non-participants felt their natural resources were somewhat worse, while 24% felt they were somewhat better.

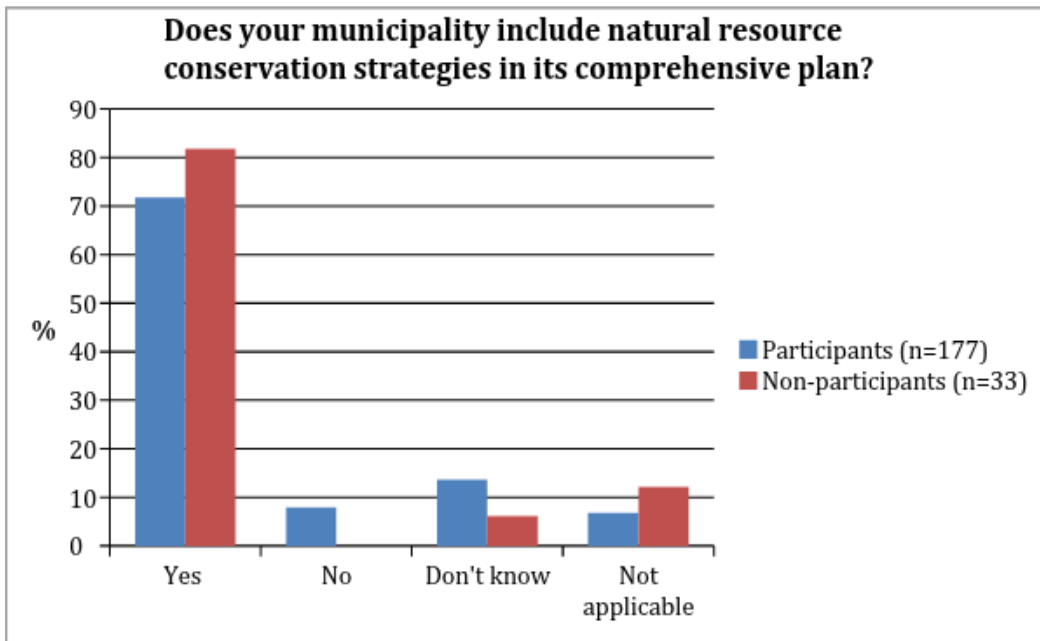
Figure 24. Change in condition of community’s natural resources over ten years



Natural resources as part of a municipality’s comprehensive plan

Most participants (72%) and non-participants (82%) agreed that their municipalities included natural resource conservation strategies in their comprehensive plans.

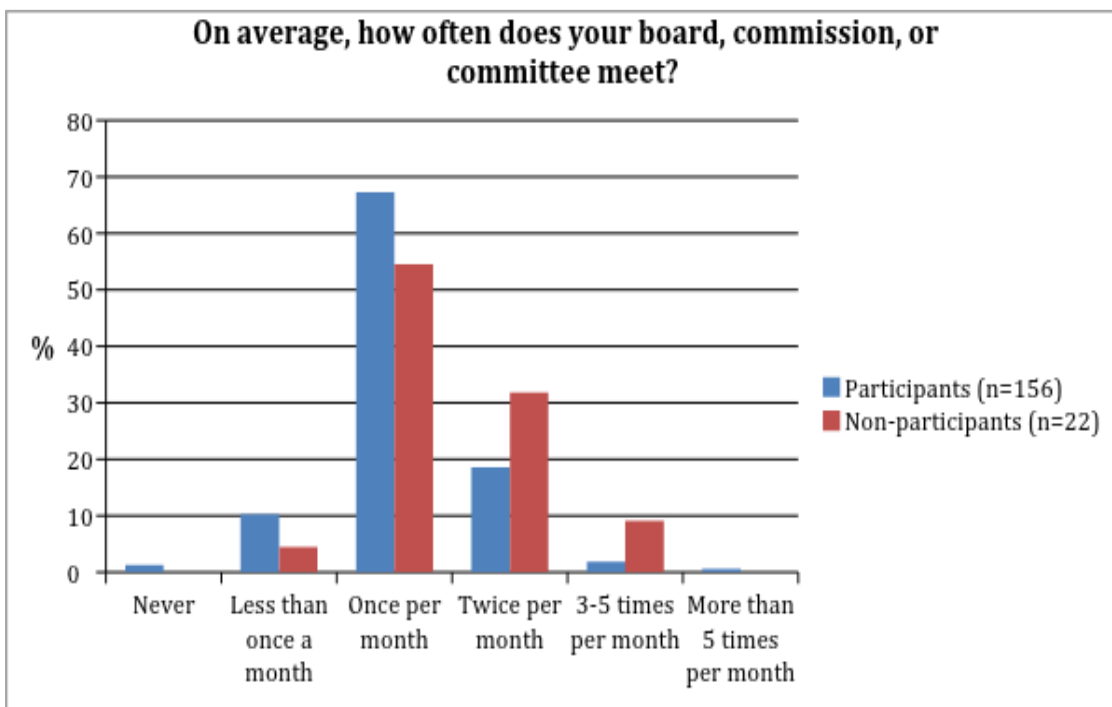
Figure 25. Inclusion of natural resource conservation strategies in plan



Frequency of board, commission or committee meetings

When asked how often their board, commission or committees meet, about two-thirds (67%) of participants and 55% of non-participants stated once per month. About 19% of participants met twice per month, compared to 32% of non-participants.

Figure 26. Frequency of board, commission or committee meetings

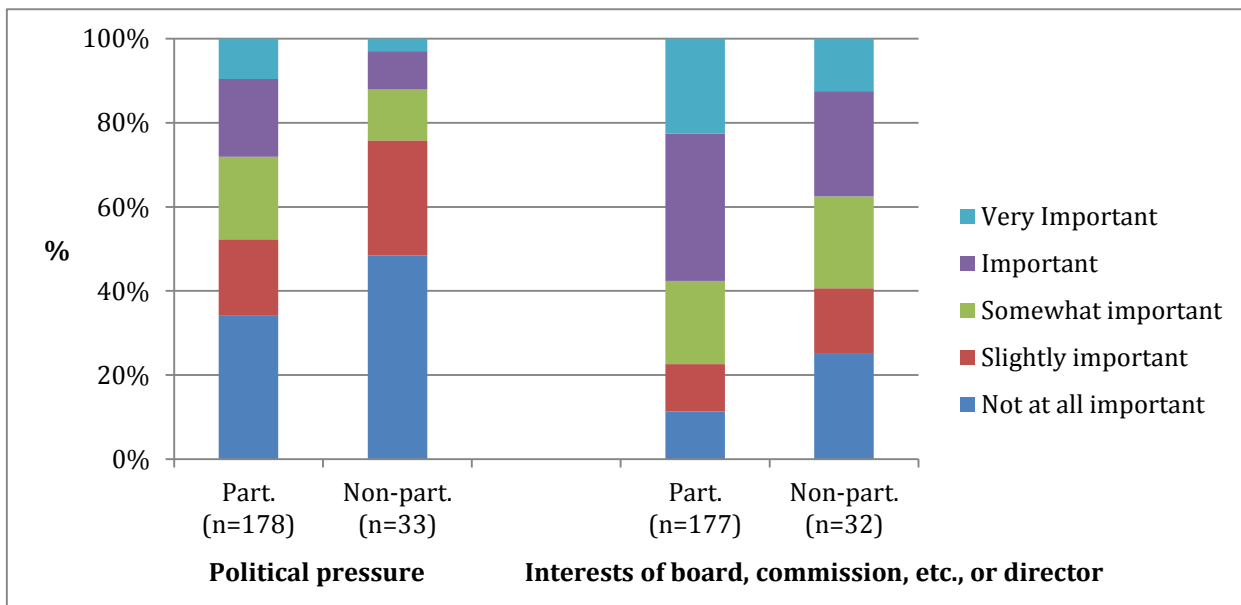


Influences on Conservation

We wanted to learn about the importance of the following interests to the time and attention given to habitat conservation by the respondents' boards, commissions, committees or organizations/departments. The findings are summarized below:

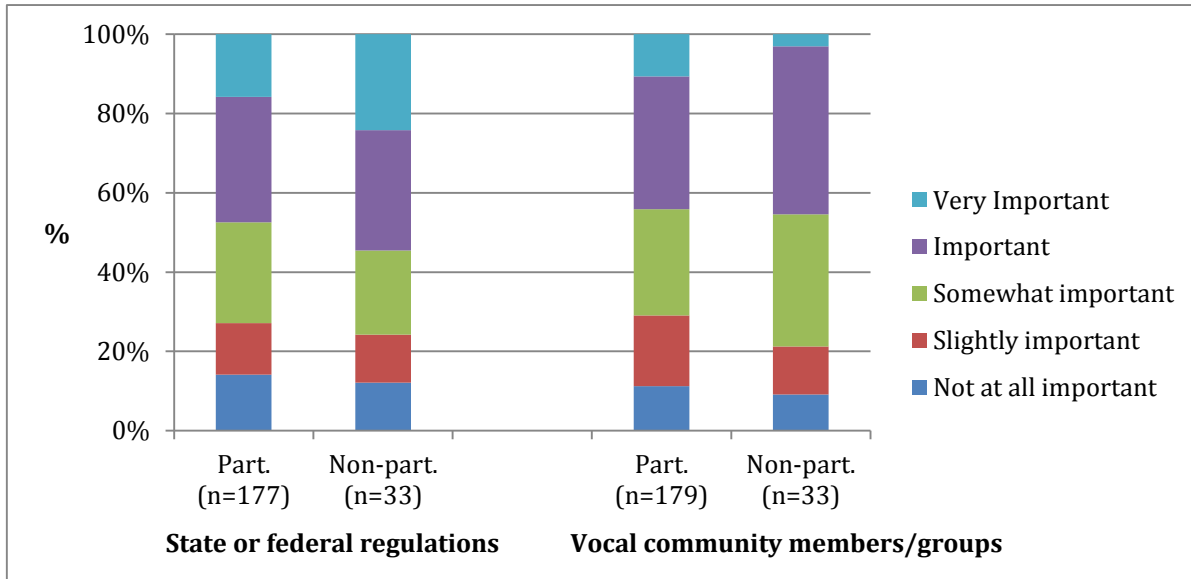
- **Political Pressure:** The largest percentage of participants (34%) and non-participants (49%) felt that political pressure was 'not at all' important. 18% of participants felt that political pressure was slightly important, compared to 27% of non-participants.
- **Interest of Board/Commission/Committee chair or Executive Director:** Almost 58% of participants considered these interests as important or very important, while 38% of non-participants felt similarly. 31% of participants felt these positions are somewhat or slightly important, compared to 38% of non-participants.

Figure 27. How important were the following to the time and attention given to habitat conservation by your board/commission/committee or organization/department?



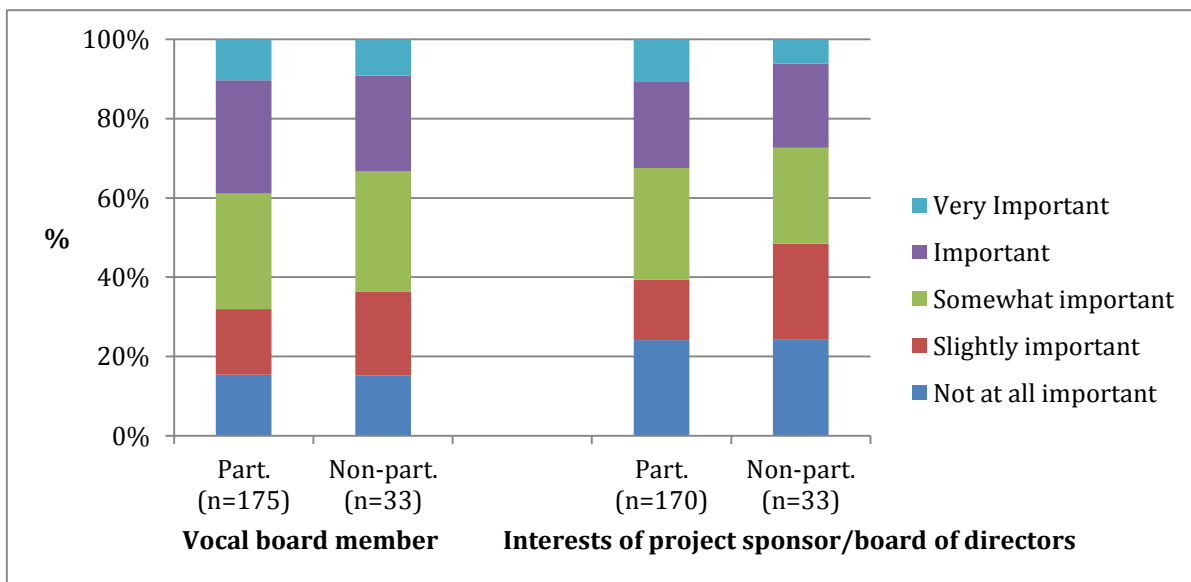
- **State or federal regulations:** 47% of participants felt State or Federal regulations were important or very important to the time and attention given to habitat conservation, while almost 55% of non-participants felt similarly. 38% of participants felt regulations were somewhat or slightly important, compared to 33% of non-participants.
- **Vocal community members or groups:** Results were similar between the two groups: 44% of participants and 45% of non-participants felt vocal community members or groups were important or very important. Almost 48% of participants, and 45% of non-participants felt they were somewhat or slightly important.

Figure 28. How important were the following to the time and attention given to habitat conservation by your board/commission/committee or organization/department?



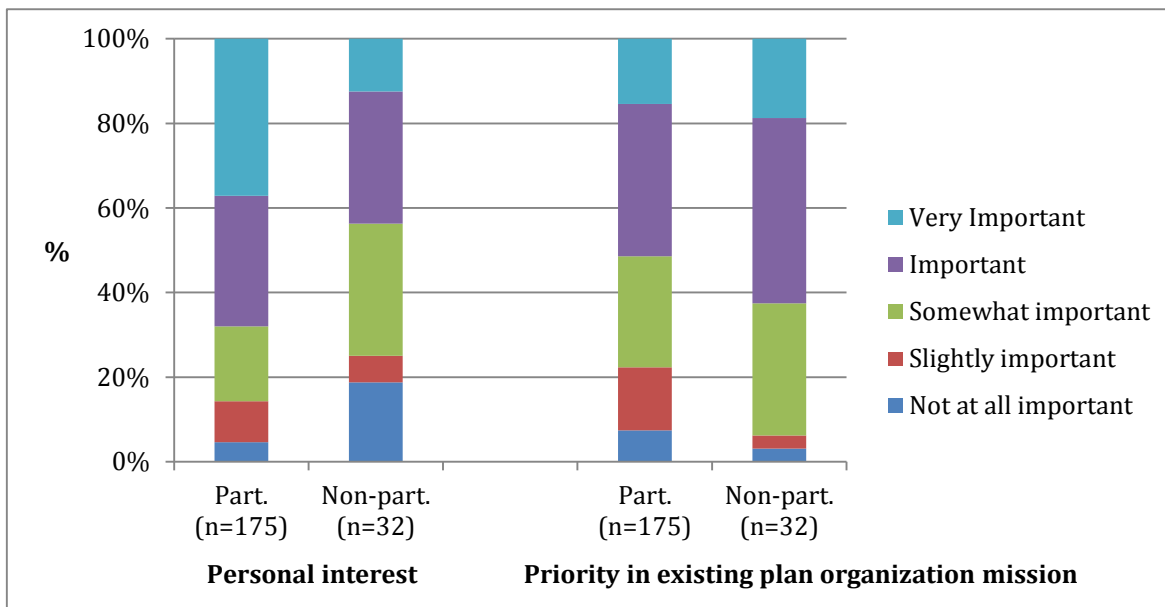
- Vocal board member: Both groups had similar results for this category: 39% of participants and 33% of non-participants felt a vocal board member was important or very important. Almost 46% of participants and 52% of non-participants felt they were somewhat or slightly important.
- Interests of project sponsor or board of directors: 32% of participants felt the interest of project sponsor or board of directors was important or very important, versus 27% of non-participants. Almost 44% of participants and 48% of non-participants felt they were somewhat or slightly important.

Figure 29. How important were the following to the time and attention given to habitat conservation by your board/commission/committee or organization/department?



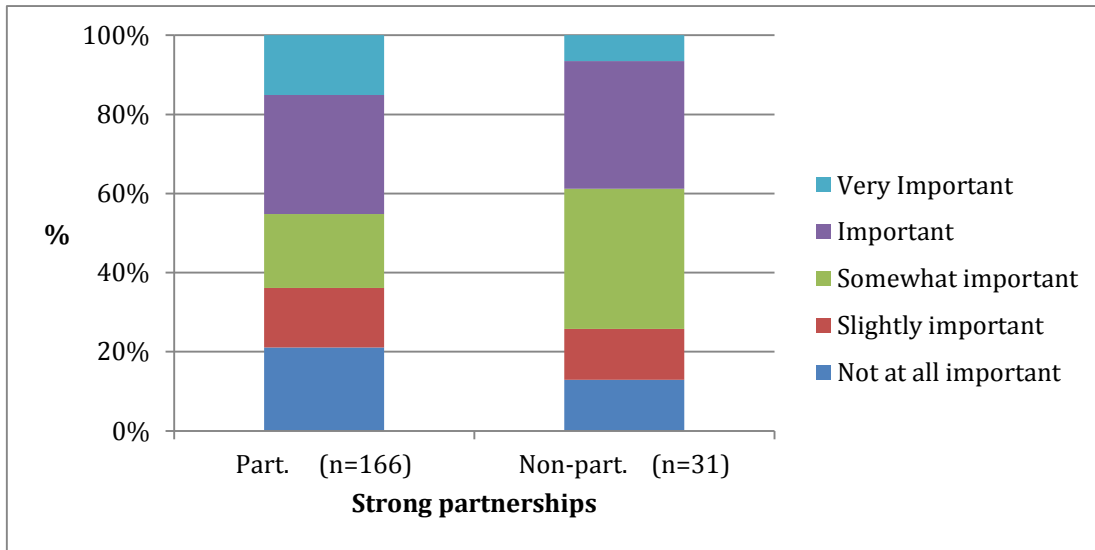
- Personal interest: More than two-thirds of participants (68%) considered personal interest to be important or very important, compared with 44% of non-participants. 27% of participants considered this to be somewhat or slightly important, compared to 38% of non-participants.
- Priority in existing plan or organizational mission: Half (51%) of participants and almost 63% of non-participants felt priority in an existing plan or organizational mission were important or very important. 41% of participants felt this was somewhat or slightly important, compared to 34% of non-participants.

Figure 30. How important were the following to the time and attention given to habitat conservation by your board/commission/committee or organization/department?



- Strong partnerships: 45% of participants and 40% of non-participants felt strong partnerships were important or very important. 34% of participants felt these partnerships were slightly or somewhat important, compared to almost half (48%) of non-participants.

Figure 31. How important were the following to the time and attention given to habitat conservation by your board/commission/committee or organization/department?

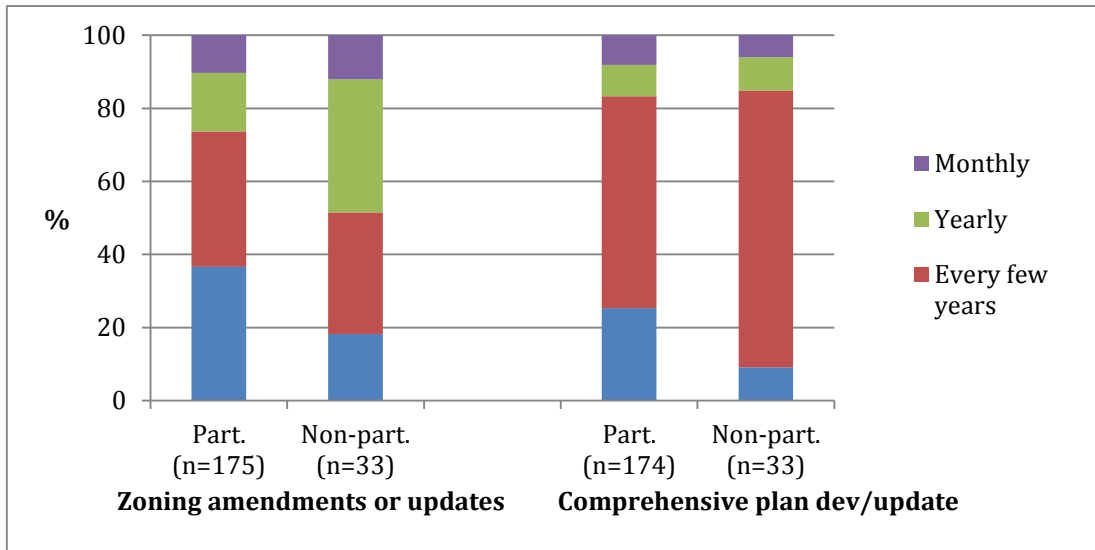


Conservation Planning Activity

We wanted to learn about survey respondents' role in land-use and conservation planning; thus, we asked a number of question related to land-use planning. The responses are shown in paired graphs below.

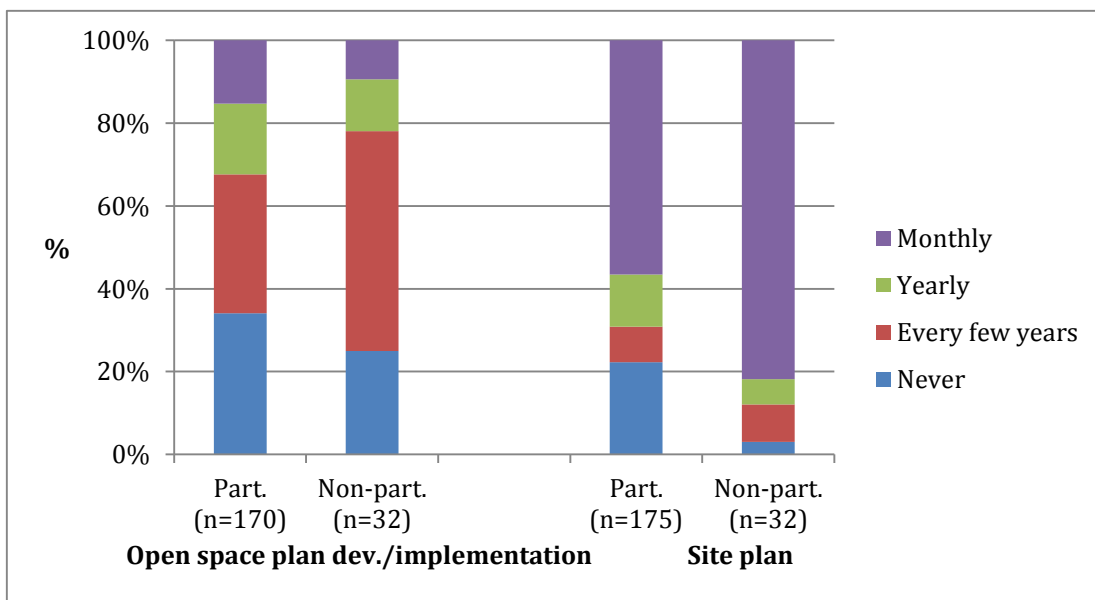
- Zoning amendments or updates: For participants, 37% dealt with zoning amendments or updates every few years, while another 37% never worked on these tasks. In contrast, 36% of non-participants worked on zoning issues on a yearly basis, while another third (33%) did so every few years.
- Comprehensive plan development or update: The majority of both participants and non-participants provided similar responses for comprehensive plan developments or updates. 58% of participants, and 76% of non-participants worked with comprehensive plans every few years, while 25% of participants and 9% of non-participants never worked on them.

Figure 32. How often do you deal with the following tasks in your land-use or conservation planning role?



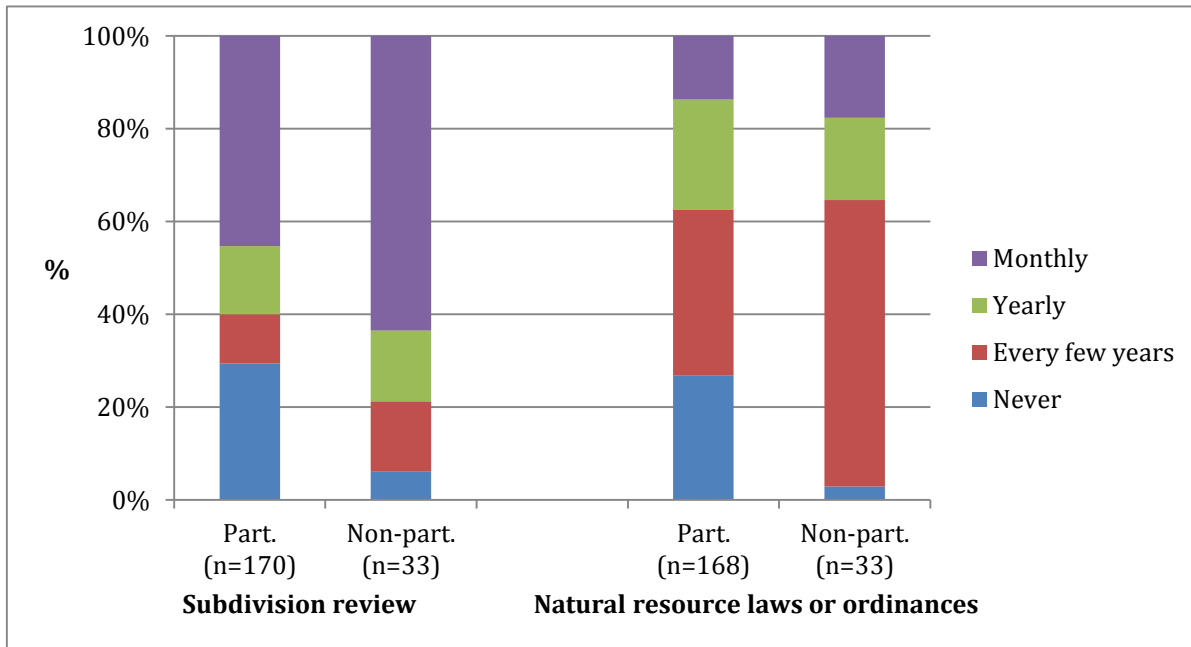
- Open space plan development or implementation: About one-third (34%) of participants dealt with open space plan development or implementation every few years, while another third reported having never dealt with this task. For non-participants, more than half (53%) worked with open space plans every few years, while a quarter (25%) never dealt with them.
- Site plan: The majority of participants (57%) and especially non-participants (82%) worked on site plans on a monthly basis. 22% of participants never worked on them. Of the non-participant responses, 9% worked on site plans every few years, while 6% dealt with them on an annual basis.

Figure 33. How often do you deal with the following tasks in your land-use or conservation planning role?



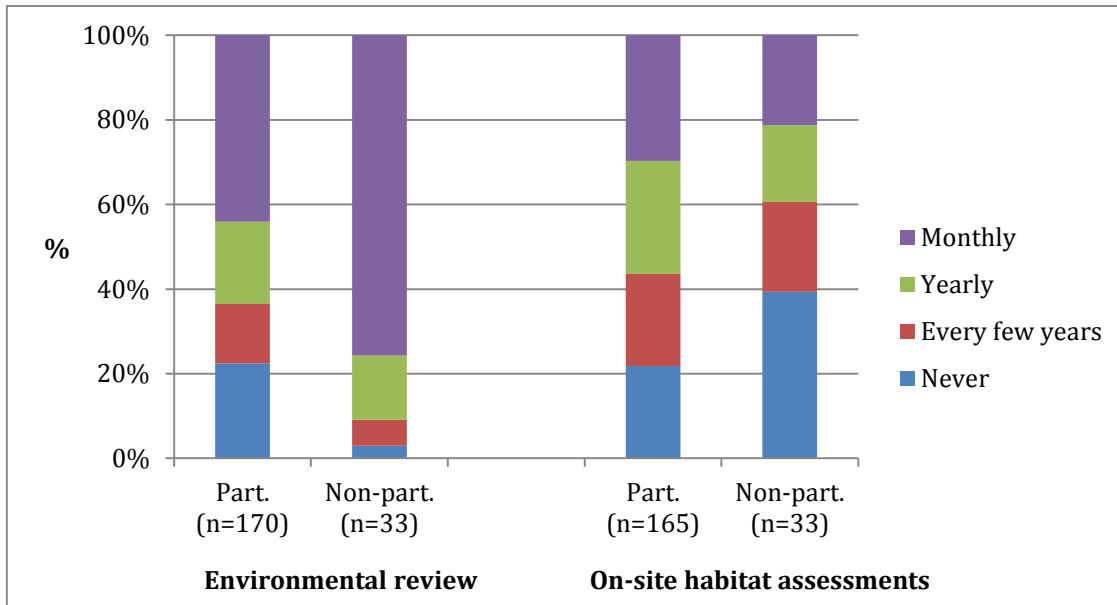
- **Subdivision review:** Almost half (45%) of participants and the majority of non-participants (64%) dealt with subdivision reviews on a monthly basis, while 11% of participants and 15% of non-participants reviewed them on a yearly basis. Notably, about 29% of participants never addressed subdivision reviews.
- **Natural resource laws or ordinances:** Only 36% of participants worked on natural resource laws or ordinances every few years; in contrast, about 64% of non-participants did so. More than a quarter (27%) of participants never dealt with these laws or ordinances.

Figure 34. How often do you deal with the following tasks in your land-use or conservation planning role?



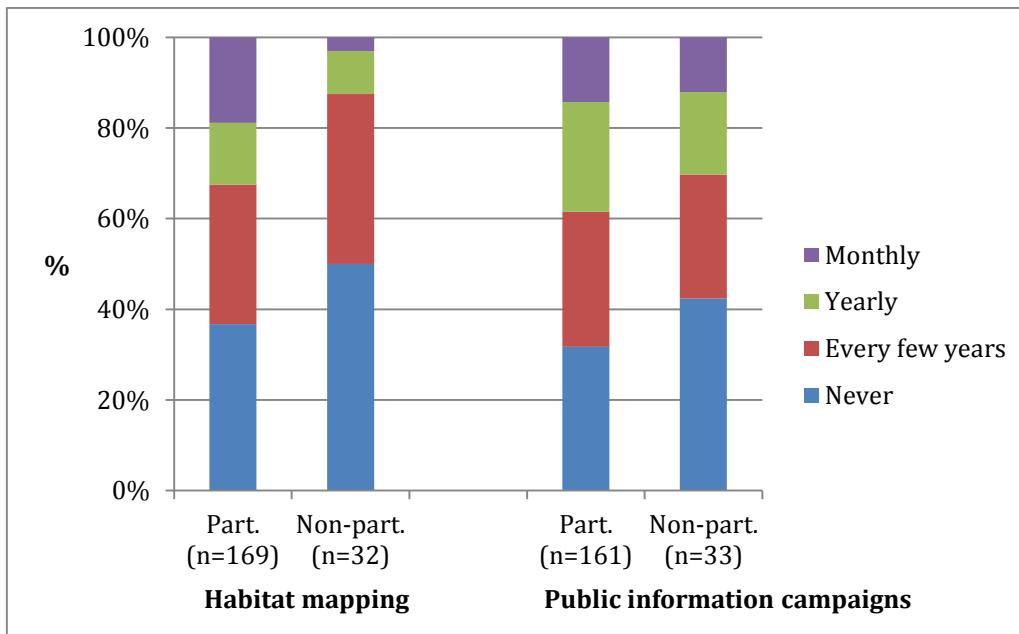
- **Environmental review:** Whereas 44% of participants worked with environmental reviews on a monthly basis, more than three-quarters (76%) of non-participants did so. 19% of participants and 15% of non-participants worked on environmental reviews yearly.
- **On-site habitat assessment:** For participants, about 30% worked on on-site habitat assessments on a monthly basis, while another 27% did so yearly. For non-participants, 21% worked on these assessments monthly, while 15% did so yearly.

Figure 35. How often do you deal with the following tasks in your land-use or conservation planning role?



- Habitat mapping: 31% of participants and 38% of non-participants worked on habitat mapping every few years. However, the majority of participants (37%) and half of non-participants never dealt with habitat mapping tasks.
- Public information campaigns: 30% of participants and 27% of non-participants worked on public information campaigns every few years, while 37% of participants and 42% of non-participants never dealt with them.

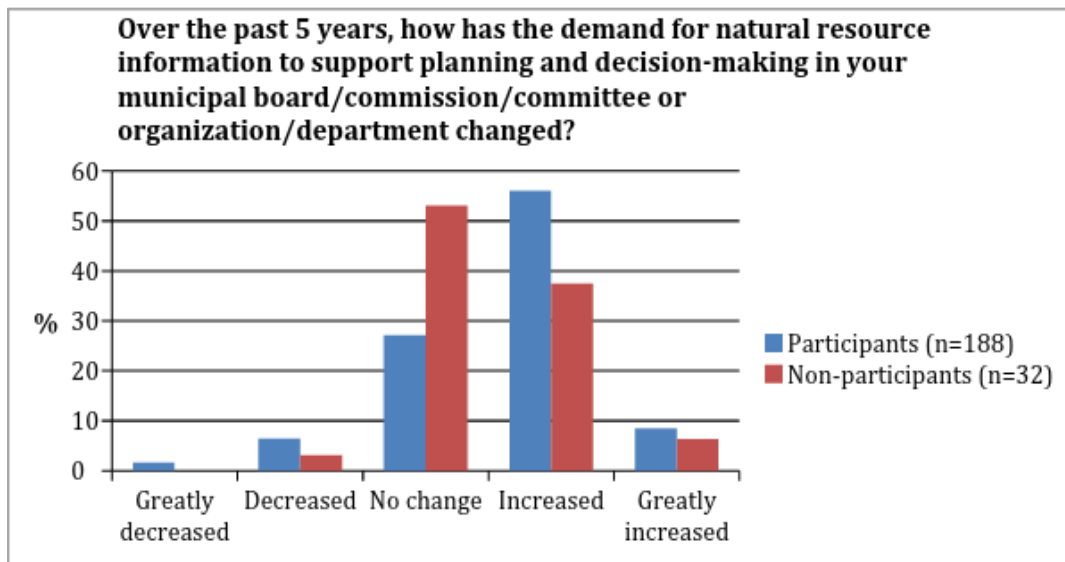
Figure 36. How often do you deal with the following tasks in your land-use or conservation planning role?



Changes in demand for natural resource information during the past 5 years

For 65% of participants, over the past 5 years the demand for natural resource information has increased or greatly increased, compared with 44% of non-participants. The majority of non-participants (53%) felt there was no change in demand over the past 5 years, versus 27% of participants.

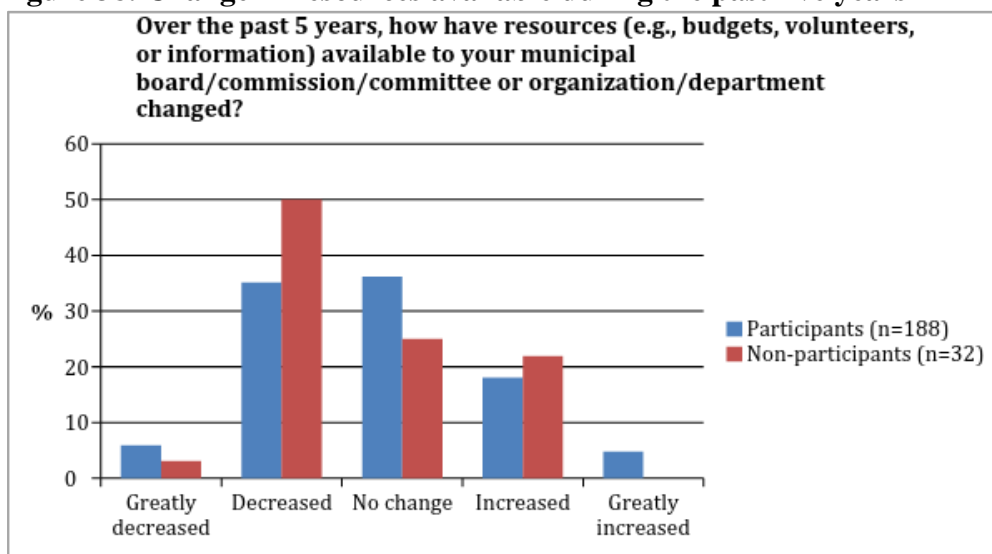
Figure 37. Change in demand for natural resource information



Changes in availability of resources over the past 5 years

Almost an equal percentage of participants felt that over the past 5 years, resources (e.g., budgets, volunteers, etc.) available to their BCC or organization remained the same (36%) or decreased (35%). About 23% of participants felt resources increased or greatly increased. Half of non-participants felt resources had decreased, while 25% felt there was no change and 22% felt resources had increased.

Figure 38. Change in resources available during the past five years

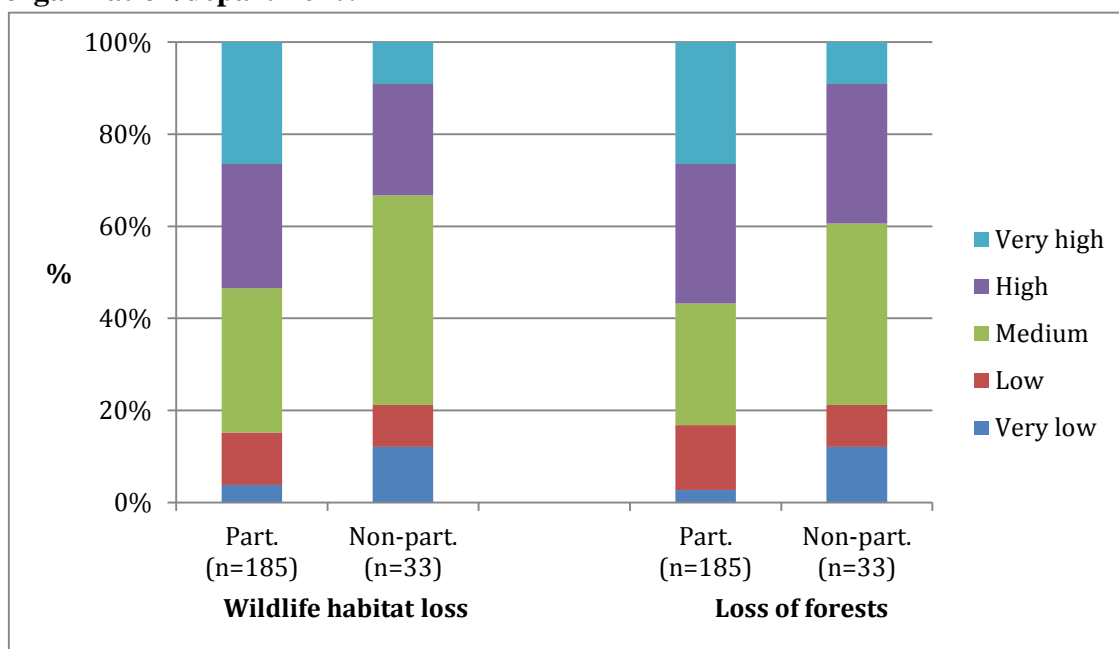


Conservation Priorities

Respondents were asked, “How much of a priority are the following issues to your board/commission/committee or organization/department?” Comparative findings are shared below.

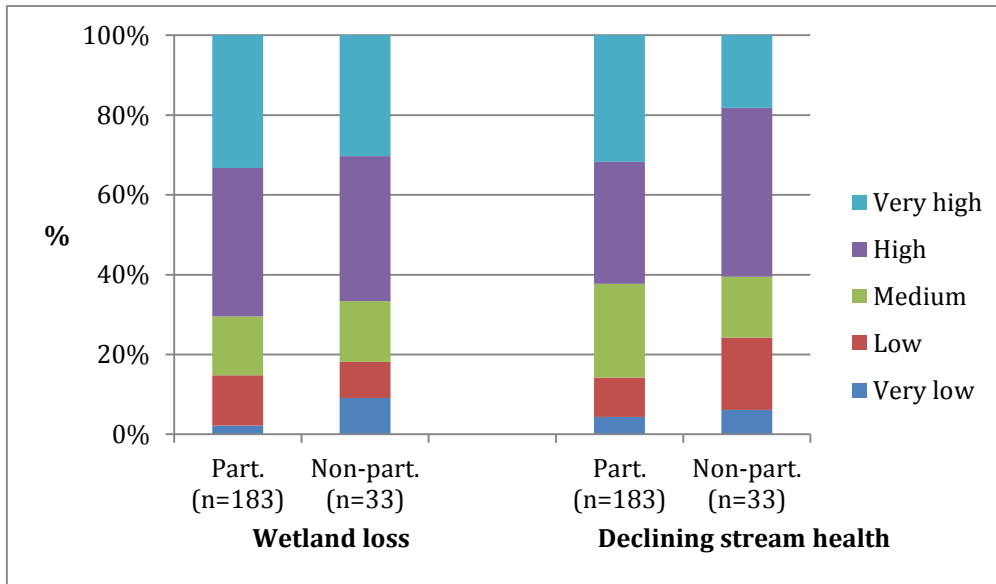
- **Wildlife habitat loss:** While over half of participants (54%) rated wildlife habitat loss as a high or very high priority to their board/commission/committee or organization/development, only one-third of non-participants (33%) did so. 31% of participants and almost half (46%) of non-participants rated this as a medium priority.
- **Loss of forests:** More than half (57%) of participants considered loss of forests to be a high or very high priority, compared with 39% of non-participants. 27% of participants and 39% of non-participants considered this to be a medium priority.

Figure 39. How much of a priority are the following issues to your board/commission/committee or organization/department?



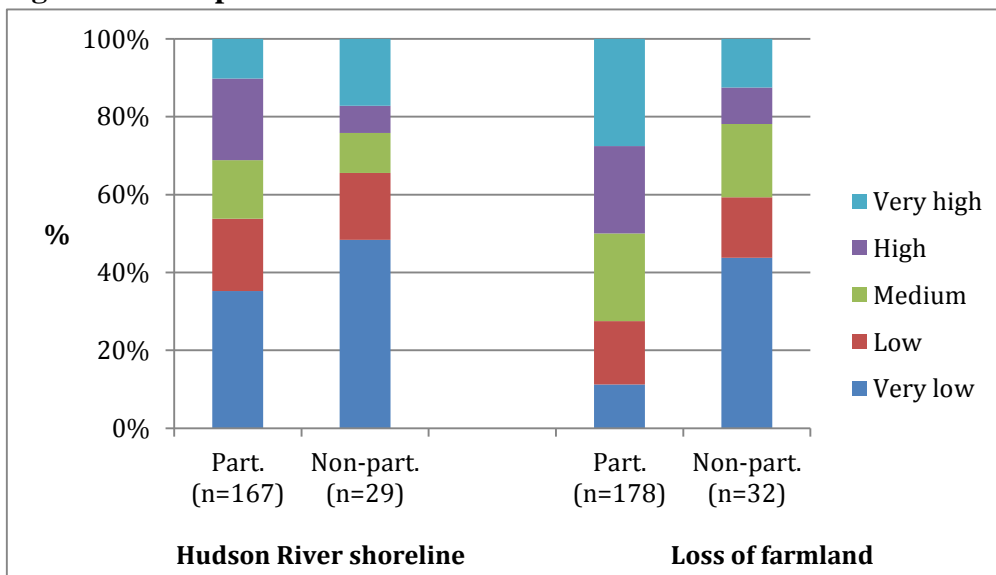
- **Wetland loss:** More than 70% of participants and two-thirds of non-participants (67%) view wetland loss as a high or very high priority.
- **Declining stream health:** The majority of participants (62%) and non-participants (61%) rated declining stream health as a high or very high priority. 24% of participants and 15% of non-participants considered this to be a medium priority. Almost one-fifth (18%) of non-participants rated declining stream health as a low priority.

Figure 40. How much of a priority are the following issues to your board/commission/committee or organization/department?



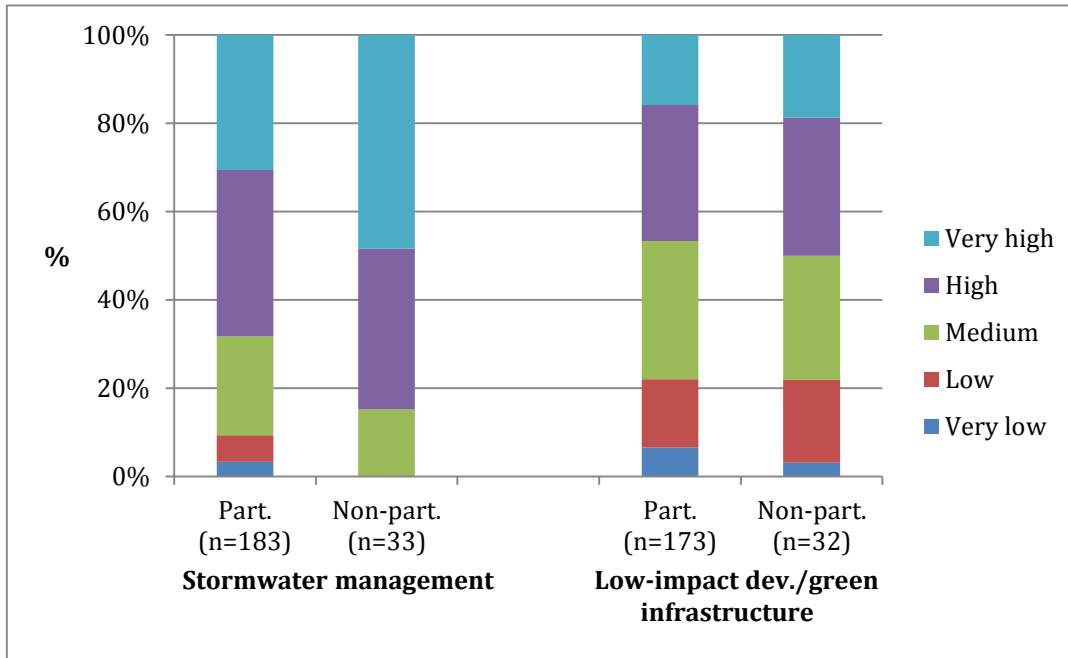
- Hudson River shoreline management: More than half of participants (54%) and two-thirds of non-participants (66%) view this issue as a low or very low priority. However, at least 31% of participants and 24% of non-participants view the Hudson River shoreline as a high or very high priority.
- Loss of farmland: The two groups of respondents had differing perspectives on loss of farmland: while half of participants rated loss of farmland as a high or very high priority, only 24% of non-participants did. 59% of non-participants considered loss of farmland as a low or very low priority, while 28% of participants did.

Figure 41. How much of a priority are the following issues to your board/commission/committee or organization/department?



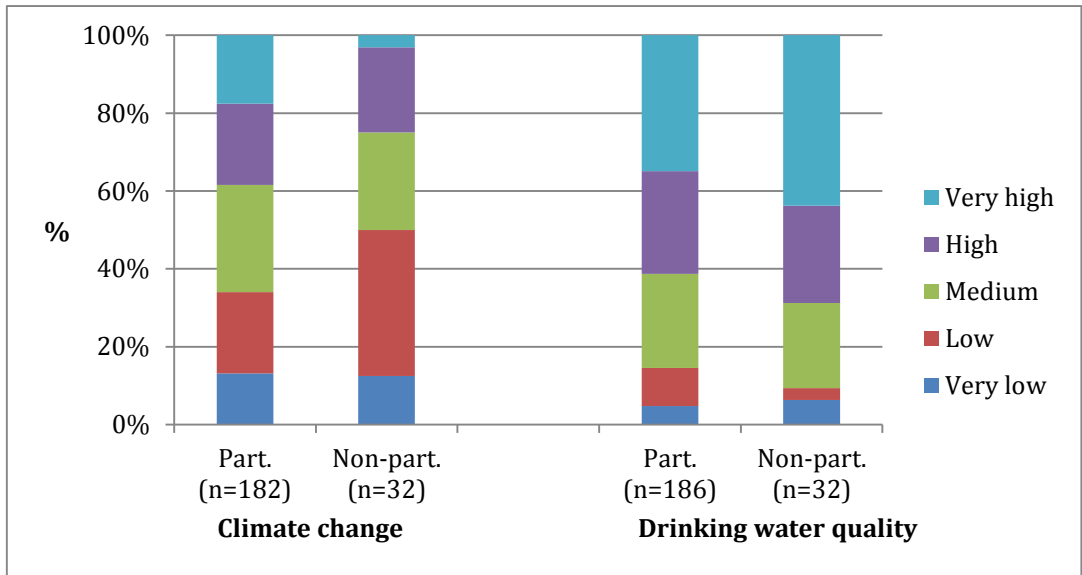
- Stormwater management: A majority of participants (68%) and non-participants (85%) considered stormwater management to be a high or very high priority. 22% of participants and 15% of non-participants view this as a medium priority. None of the non-participants rated stormwater management as a low or very low priority.
- Low-impact development/green infrastructure: Both participants and non-participants responded similarly to the issue of low-impact development/green infrastructure: 47% of participants and half of non-participants considered this to be a high or very high priority. 31% of BOP participants and 28% of non-participants saw this as a medium priority.

Figure 42. How much of a priority are the following issues to your board/commission/committee or organization/department?



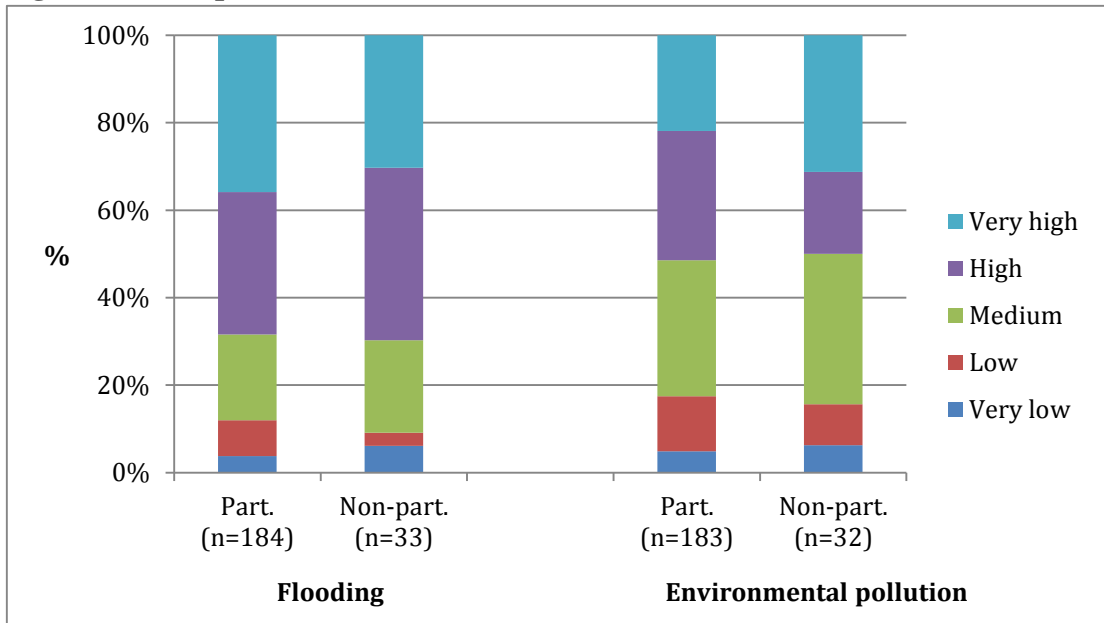
- Climate change: 39% of participants and one-quarter of non-participants rated climate change as a high or very high priority, while 28% of participants and 25% of non-participants considered it a medium priority. Almost 38% of non-participants considered it a low priority.
- Drinking water quality: A majority of participants (61%) and more than two-thirds of non-participants (69%) identified drinking water quality as a high or very high priority. 24% of participants and 22% of non-participants considered it a medium priority.

Figure 43. How much of a priority are the following issues to your board/commission/committee or organization/department?



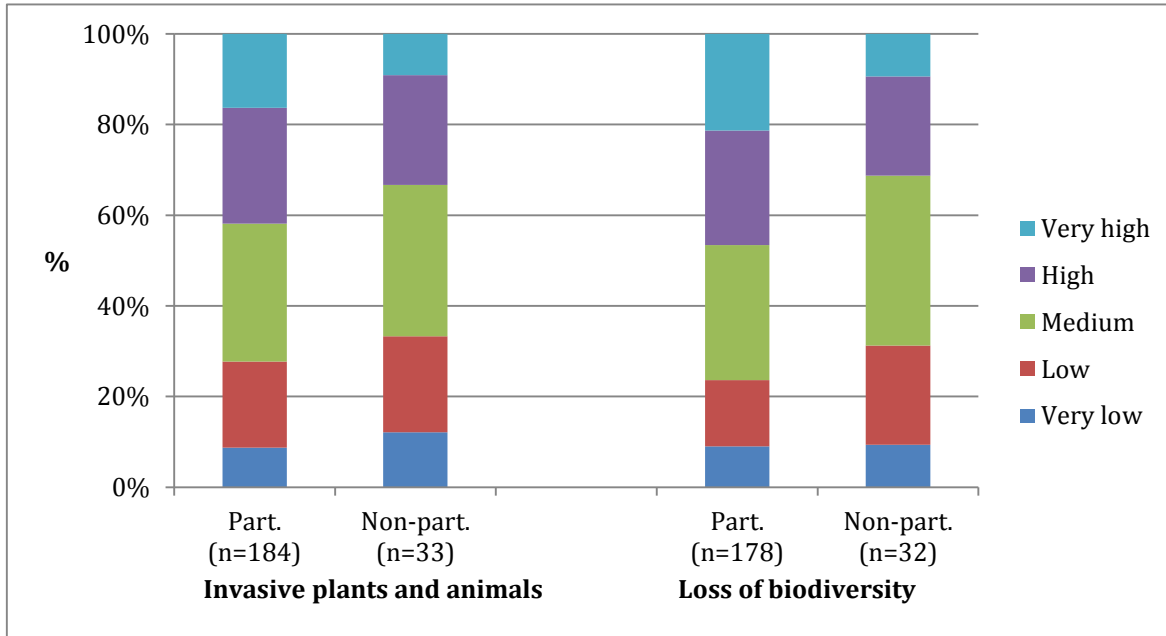
- Flooding: More than two-thirds of participants (69%) and non-participants (70%) considered flooding to be a high or very high priority. 20% of participants and 21% of non-participants rated it as a medium priority.
- Environmental pollution: Half of participants and non-participants felt that environmental pollution was a high or very high priority. 31% of participants and 34% of non-participants considered this to be a medium priority.

Figure 44. How much of a priority are the following issues to your board/commission/committee or organization/department?



- Invasive plants and species: 42% of participants and one-third (33%) of non-participants rated invasive plants and species as a high or very high priority, while 30% of participants and 33% of non-participants considered it a medium priority.
- Loss of biodiversity: 47% of participants and 31% of non-participants considered loss of biodiversity as a high or very high priority. 30% of participants and 38% of non-participants viewed it as a medium priority.

Figure 45. How much of a priority are the following issues to your board/commission/committee or organization/department?



APPENDIX F: FREQUENCY OF LAND-USE PLANNING TASKS BY POSITION

Table 1. Frequency of land-use planning tasks by position: Zoning amendments.

	<i>% (n) Frequency of working on Zoning Amendment by Position</i>			
<i>Current Position</i>	Never	Every few years	Yearly	Monthly
Town/Village Board or City Council	22% (2)	33% (3)	11% (1)	33% (3)
Planning Board	16% (9)	40% (22)	26% (14)	18% (10)
Zoning Board of Appeals	0% (0)	33% (1)	67% (2)	0% (0)
Conservation Advisory Council	35% (24)	43% (29)	12% (8)	10% (7)
Open Space Committee	39% (9)	39% (9)	13% (3)	9% (2)
Comp. Plan Committee	31% (8)	42% (11)	15% (4)	12% (3)

Table 2. Frequency of land-use planning tasks by position: Comprehensive Plan development and update.

	<i>% (n) Frequency of working on Comprehensive Plan development or implementation</i>			
<i>Current Position</i>	Never	Every few years	Yearly	Monthly
Town/Village Board or City Council	33% (3)	67% (6)	0% (0)	0% (0)
Planning Board	11% (6)	64% (35)	11% (6)	15% (8)
Zoning Board of Appeals	33% (1)	67% (2)	0% (0)	0% (0)
Conservation Advisory Council*	25% (17)	49% (33)	16% (11)	10% (7)

Open Space Committee	13% (3)	78% (18)	9% (2)	0% (0)
Comp. Plan Committee*	8% (2)	58% (15)	12% (3)	23% (6)

*significant difference between categories at p<.05 level (chi-square test)

Table 3. Frequency of land-use planning tasks by position: Open Space Plan development and update.

<i>Current Position</i>	<i>% (n) Frequency of working on Open Space Plan development or implementation</i>			
	Never	Every few years	Yearly	Monthly
Town/Village Board or City Council	25% (2)	63% (5)	0% (0)	13% (1)
Planning Board	30% (16)	47% (25)	13% (7)	9% (5)
Zoning Board of Appeals	33% (1)	0% (0)	67% (2)	0% (0)
Conservation Advisory Council	31% (21)	27% (18)	19% (13)	22% (15)
Open Space Committee*	4.3% (1)	44% (10)	13% (3)	39% (9)
Comp. Plan Committee*	15% (4)	54% (14)	4% (1)	27% (7)

*significant difference between categories at p<.05 level (chi-square test)

Table 4. Frequency of land-use planning tasks by position: Site Plan.

<i>Current Position</i>	<i>% (n) Frequency of working on Site Plans</i>			
	Never	Every few years	Yearly	Monthly
Town/Village Board or City Council	22% (2)	0% (0)	22% (2)	56% (5)
Planning Board*	0% (0)	6% (3)	7% (4)	87% (48)
Zoning Board of Appeals	33% (1)	33% (1)	33% (1)	0% (0)
Conservation Advisory Council	16% (11)	6% (4)	14% (10)	64% (45)

Open Space Committee	29% (7)	8% (2)	4% (1)	58% (14)
Comp. Plan Committee	15% (4)	8% (2)	15% (4)	62% (16)

*significant difference between categories at p<.05 level (chi-square test)

Table 5. Frequency of land-use planning tasks by position: Subdivision review

<i>Current Position</i>	<i>% (n) Frequency of working on Subdivision Review</i>			
	Never	Every few years	Yearly	Monthly
Town/Village Board or City Council	25% (2)	13% (1)	38% (3)	25% (2)
Planning Board*	2% (1)	2% (1)	10% (5)	87% (45)
Zoning Board of Appeals	33% (1)	33% (1)	33% (1)	0% (0)
Conservation Advisory Council	19% (13)	16% (11)	17% (12)	48% (33)
Open Space Committee	33% (8)	17% (4)	8% (2)	42% (10)
Comp. Plan Committee	19% (5)	12% (3)	12% (3)	58% (15)

*significant difference between categories at p<.05 level (chi-square test)

Table 6. Frequency of land-use planning tasks by position: natural resource laws or ordinances.

<i>Current Position</i>	<i>% (n) Frequency of working on natural resource laws or ordinances</i>			
	Never	Every few years	Yearly	Monthly
Town/Village Board or City Council	11% (1)	44% (4)	22% (2)	22% (2)
Planning Board	15% (8)	46% (24)	21% (11)	17% (9)
Zoning Board of Appeals	33% (1)	0% (0)	67% (2)	0% (0)
Conservation Advisory Council	19% (13)	37% (25)	25% (17)	18% (12)

Open Space Committee	21% (5)	33% (8)	33% (8)	13% (3)
Comp. Plan Committee	16% (4)	40% (10)	24% (6)	20% (5)

Table 7. Frequency of land-use planning tasks by position: environmental review.

<i>Current Position</i>	<i>% (n) Frequency of working on environmental review</i>			
	Never	Every few years	Yearly	Monthly
Town/Village Board or City Council	25% (2)	0% (0)	38% (3)	38% (3)
Planning Board*	0% (0)	7% (4)	13% (7)	79% (42)
Zoning Board of Appeals	0% (0)	0% (0)	67% (2)	33% (1)
Conservation Advisory Council	21% (14)	15% (10)	21% (14)	42% (28)
Open Space Committee	25% (6)	13% (3)	29% (7)	33% (8)
Comp. Plan Committee	25% (6)	4% (1)	17% (4)	54% (13)

*significant difference between categories at p<.05 level (chi-square test)

Table 8. Frequency of land-use planning tasks by position: on-site habitat assessment

<i>Current Position</i>	<i>% (n) Frequency of working on on-site habitat assessment</i>			
	Never	Every few years	Yearly	Monthly
Town/Village Board or City Council	25% (2)	50% (4)	13% (1)	13% (1)
Planning Board	17% (9)	17% (9)	21% (11)	44% (23)
Zoning Board of Appeals	0% (0)	0% (0)	100% (2)	0% (0)
Conservation Advisory Council	20% (13)	22% (14)	26% (17)	32% (21)
Open Space Committee*	9% (2)	44% (10)	22% (5)	26% (6)
Comp. Plan Committee*	29% (7)	38% (9)	8% (2)	25% (6)

*significant difference between categories at p<.05 level (chi-square test)

Table 9. Frequency of land-use planning tasks by position: habitat mapping

<i>Current Position</i>	<i>% (n) Frequency of working on habitat mapping</i>			
	Never	Every few years	Yearly	Monthly
Town/Village Board or City Council	38% (3)	50% (4)	0% (0)	13% (1)
Planning Board	37% (19)	37% (19)	8% (4)	18% (9)
Zoning Board of Appeals	67% (2)	33% (1)	0% (0)	0% (0)
Conservation Advisory Council	35% (23)	24% (16)	15% (10)	26% (17)
Open Space Committee	25% (6)	38% (9)	13% (3)	25% (6)
Comp. Plan Committee	40% (10)	28% (7)	8% (2)	24% (6)

Table 10. Frequency of land-use planning tasks by position: public information campaign

<i>Current Position</i>	<i>% (n) Frequency of working on public information campaign</i>			
	Never	Every few years	Yearly	Monthly
Town/Village Board or City Council	25% (2)	38% (3)	25% (2)	13% (1)
Planning Board*	48% (23)	35% (17)	13% (6)	4% (2)
Zoning Board of Appeals	33% (1)	33% (1)	0% (0)	33% (1)
Conservation Advisory Council*	19% (12)	31% (20)	35% (23)	15% (10)
Open Space Committee	29% (7)	46% (11)	17% (4)	8% (2)
Comp. Plan Committee	50% (11)	23% (5)	9% (2)	18% (4)

*significant difference between categories at p<.05 level (chi-square test)

APPENDIX G: SUMMARY OF RECOMMENDATIONS

Program Participation

Perhaps the Estuary program could provide offerings tailored to those at the beginning of their land-use planning experience.

To gain greater participation from the breadth of positions involved in land-use planning, the program can improve recruitment from Town and Village Boards, which have a role in local land-use policy, and open space and development decision-making.

Because volunteer members of land-use planning and other boards tend to be older and more highly educated (and less racially diverse) than the general population, attracting a wider cross-section of participants that represent the communities that the Estuary Program is working in will continue to be a challenge.

We recommend continuing to target the program to individuals on Planning Boards, Conservation Advisory Communities, and Open Space Committees. Town boards were also important, particularly for municipal policy adoption, and could be given greater focus in future programming.

HREP staff could consider marketing future training opportunities in terms of personal development in land-use conservation planning, including new knowledge and skills gained, and highlighting the benefits of becoming part of a network of like-minded residents and/or professionals.

Program Outcomes and Impact

The Estuary Program could consider augmenting existing training with modules in leadership and communication skills development (visioning, agenda-setting strategies, presentations, public speaking, team building, etc.) to support conservation and land-use planning.

Because of the long-term nature of policy implementation, follow-up programming could be offered that specifically addresses this. For example, this may include focusing on transferring information and other skill sets (leadership, etc.) that would help in the policy implementation process, or providing ‘case studies’ on policy/planning successes that can serve as guidelines for learning (and needed action steps), and reference for future decision-making opportunities as they arise.

This finding suggests that there may be opportunities to further build a local or regional peer network of participants, such as identifying participants to share strategies, resources and experiences; creating a network of intermediary trainers/peer educators; and/or expanding the reach of the program by asking past participants to identify colleagues or fellow volunteers who may be interested in attending.

HREP staff should continue working with other education providers to coordinate training efforts and the use of resources; exchange ideas and share participant lists to encourage greater outreach; create an online clearinghouse of upcoming events and resources; and/or find ways to provide dedicated areas of training to minimize duplication of efforts.

Estuary Program Impact on Land-Use Plans, Policies, and Procedures

There is a significant relationship between actively seeking information such as a habitat summary, GIS data, or technical assistance and the likelihood of municipal plans, policies, and procedures being adopted; we recommend that these resources continue to be provided as they are critical to municipal outcomes being achieved.

Past and current land-use planning positions

HREP staff should consider specialized training for the more experienced members of governing boards. As feasible, query these members for specific areas of need and improvement, such as effective communication of technical content.

Municipal Policy Capacity

The program could consider a two-pronged approach to working with municipal offices: while reaching out to municipalities without full-time staff (and/or with limited capacity), the Estuary Program can also identify better-resourced municipalities that have the greatest likelihood of attaining land-use planning and policy goals, with targeted assistance to develop case studies and models, and to utilize them as peer educators and networkers.

In addition to ongoing subject matter training, there may be a need to provide supplemental policy/process training in communicating with elected officials, encouraging resident involvement, promoting community issues, etc., to maintain the current momentum of program participant efforts. Central to this may be strengthening ties among local and regional communities.

Board, Commission, Committee Capacity

While respondents believe that their board, commission, or committee works well together and trusts each other, that there may be opportunities to improve and strengthen relationships with elected officials.

Consider ways for municipalities to share natural resources data or information with each another, as well as strengthening lines of communication with data providers such as NYS Department of Environmental Conservation, etc.

Consider new or refresher program modules with the priorities outlined above, while ensuring that identified 'low priority' topics (climate change, etc.) are integrated with existing program material such as flooding.

The role of consultants for natural resources information appears to be important; if possible, identify ways to better connect consultants and firms as partners in addressing information needs.

The Estuary Program can continue to serve in a critical role for respondents by providing training and technical assistance, sources and linkages to available data, and staff support. Consider tailoring a module to the capacity needs of boards and organizations, such as developing operational mandates/approaches and enhancing collaborations among boards and committees, to enable greater effectiveness in meeting conservation goals.

The Estuary Program can play a key role in reducing barriers such as lack of funding, local politics, inadequate resources, and lack of support from local leaders and residents through providing grants, utilizing peer networks to increase the number of municipal leaders with biodiversity knowledge and training, and tools for increasing support from local residents. While funding is important, training to support participants and expansion of peer networks is equally as critical.