



**Executive Summary:  
Information Needs Assessment**

**Prepared for  
Environmental Protection Agency (EPA)**

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## Background

The Environmental Protection Agency (EPA) National Library Network is composed of libraries and repositories located in the Agency's Headquarters, Regional and Field Offices, Research Centers, and specialized laboratories, as well as web-based access to electronic collections. The combined network collection contains a wide range of general information on environmental protection and management, basic sciences such as biology and chemistry, applied sciences such as engineering and toxicology, and extensive coverage of topics featured in legislative mandates such as hazardous waste, drinking water, pollution prevention, and toxic substances.

EPA is shifting its library focus toward better serving the information needs of today's patrons. Information seeking staff members are finding the materials they need in ways other than accessing the library, so the library network is adapting to meet their needs. This needs assessment is intended to serve as a blueprint for ensuring that services provided by the network are those that EPA staff need and that support the future planning initiatives for the EPA National Library Network. The EPA would also like to assess the needs of citizens for EPA library services, but this first phase of the needs assessment focuses on the needs of EPA staff.

In a report to Congress, EPA stated its commitment to providing publicly available libraries in each Region and at EPA Headquarters. The report addressed how EPA libraries will:

- provide on-site library presence in all Regions and at the Headquarters and Chemical libraries for the public and EPA staff,
- continue to provide and enhance access to the Agency's library collections,
- continue to provide valuable library services for both the public and EPA staff,
- ensure the availability of environmental information to EPA staff and the public, and
- build upon past successes to strengthen the network of EPA's libraries.

The EPA National Library Network serves approximately 17,000 personnel across its 26 locations.

## Objectives

The objective of this project was to determine the future information needs of an increasingly mobile work force, and to learn how to leverage technology to serve today's patron, including the following specific questions:

- What information and resources do internal users need;
- How are information needs currently being met;
- What information gaps exist;
- What other information services are needed;
- At what point do users turn to the library;
- What are users' information behaviors and preferences;
- What training needs exist on the use of information; and
- What attributes of information services do users value.

## Methodology

Outsell recommended the following approach:

### Phase 1: Library Staff Interviews

Outsell recommended involving the library staff in the research initiative as frontline stakeholders in the outcome. In October 2008, an Outsell analyst conducted 5 telephone interviews of approximately 30 minutes each in length in order to hear from a representative sample of EPA library sites. Each interview involved three to six library staff from one or multiple locations. An EPA representative was responsible for identifying and inviting these research participants and coordinating with the Outsell project team to get the interviews scheduled at a mutually agreeable time. The purpose of these interviews was to discover, from the library staff's perspective, what issues and metrics we should be aware of before going into questionnaire design. An added benefit of this step was accomplishing library staff buy-in and support for the research effort. Using what we learned in these interviews, Outsell designed a customized information needs assessment questionnaire for the quantitative survey step.

### Phase 2: Quantitative Survey

Outsell recommended that EPA gain a full understanding of user needs with a 15- to 20-minute online survey to all employees. We understood this population to be approximately 17,000. Outsell designed the questionnaire with input and final approval from EPA to meet the objectives stated earlier, and then programmed and hosted the survey on our secure server. EPA was responsible for distributing survey invitations via e-mail. Outsell provided a sample e-mail invitation for EPA to edit as needed. The survey was fielded from May 11 through June 9, 2009, and a total of 2,377 responses were collected in our database. Based on 17,000 potential invitees, this represents a 14% response rate and a confidence level of 95% +/- 1.9%.

### Phase 3: Qualitative Stakeholder Interviews

Outsell conducted 7 interviews with stakeholders or executive-level management in key areas. These interviews provided a higher-level view of organizational information needs and usage. Topics explored included:

- Information behaviors and preferences;
- How information is obtained;
- Where else knowledge workers go for information;
- Business goals and drivers;
- Ideal information landscape; and
- Value of information.

The interviews were conducted by an Outsell senior analyst via phone during July 2009. Each interview lasted approximately 30 to 45 minutes and was scheduled at a time that is convenient for the stakeholder.

### Phase 4: Qualitative Focus Groups

In order to augment the quantitative survey results, Outsell conducted a series of 6 focus groups among key user segments such as scientists, enforcement and regulatory staff, and administration. Outsell designed a discussion guide that was used to lead the conversations. In order to involve a broader geographic audience, the focus groups were conducted via telephone conference. Questions focused on the deeper issues and learnings from the quantitative survey since it is not usually possible to achieve the level of detailed response required on these topics when using quantitative methods alone. Focus groups were led by an Outsell senior analyst during June and July 2009, and EPA representatives coordinated scheduling of the sessions.

## Analysis & Deliverables

The findings from all of the research steps have been analyzed and synthesized by an Outsell senior analyst and communicated in this report that includes our analytical observations and recommendations for action going forward. The level of segmentation in the report includes the total respondent set plus six segments:

1. Headquarters (HQ)
2. All Regions (1 through 10)
3. Research Triangle Park (RTP)
4. Cincinnati
5. ORD Labs, includes:
  - a. NERL Athens
  - b. NERL Las Vegas
  - c. NHEERL Atlantic Ecology Division
  - d. NHEERL Gulf Ecology Division
  - e. NHEERL Mid-continent Ecology Division
  - f. NHEERL Western Ecology Division
  - g. NRMRL Ada, OK
  - h. NRMRL Edison, NJ
6. Other, includes:
  - a. NEIC
  - b. NVFEL Ann Arbor
  - c. R&IE Las Vegas
  - d. Other

Outsell has also provided raw data files and cross-tabulations segmented by 40 groups of EPA's choosing (includes individual regions, functional areas, and specific groupings of headquarters and lab groups). Outsell mined our internal databases for benchmark data where relevant and included those metrics for comparison.

## Project Team

At Outsell we assign a senior-level lead consultant or lead analyst to all projects. This person is responsible for all aspects of the project and its success and will be assigned upon project confirmation. Outsell's Director of Primary Research, Sheila King, led all phases of the study.

It is considered best practice at Outsell for a senior member of the team to review any client deliverables prior to their submission. In this instance, Leigh Watson Healy, Chief Analyst, undertook this task. Leigh is an experienced member of the Outsell team and has particular expertise in information needs assessment.

## In Outsell's Opinion – Essential Actions

**Provide a broader selection of electronic journals via the Desktop Library.** Explore alternate and supplemental journal subscription providers that will expand the comprehensiveness of journal titles offered. Tracking usage metrics and interlibrary loan and document delivery requests will help guide portfolio decisions. Another potential solution avoids reinventing the wheel by partnering with university libraries, other governmental agencies, or associations to gain access to additional journal titles and other information resources. The EPA is regarded as the authority on environmental protection issues and human health concerns. In order to maintain the appropriate level of credibility and innovation, the agency must have access to the most current and the most comprehensive information resources possible.

**Enhance search capabilities on EPA websites.** Throughout the research we heard that information seekers routinely choose Google over EPA search engines because they experience greater success – even when searching for internal EPA documents. Better search capabilities and filtering of results is needed in order to encourage usage of EPA's tools.

**Conduct a vendor portfolio management study and optimize Desktop Library resource offerings.** Based on the research findings, there are resources that are purchased and offered at single sites that have the potential to be universally beneficial, such as Web of Science. Identifying these resources and offering them centrally via the Desktop Library would likely yield great economies of scale and more importantly would provide access to necessary resources across the agency.

**Market, promote, and raise awareness of library offerings.** Due to the inconsistencies and variances in library services and resource offerings across the agency's library network, information users do not know where to turn and how to access the resources and services they need. They often do not even know what is available to them or how to make requests. Effective methods for publicizing the library's offerings have included library orientations for new employees and periodic refreshers for everyone, open houses, and the use of electronic marketing materials.

**Offer more training on how to use the library resources and services.** Training methods must be specific, targeted and customized to the needs of individuals or small groups. Preferred formats are self-paced computer modules and on-demand tutorials – whole day, generic classroom training will not suffice.

**Provide remote access for offsite workers.** When working in the field, from other agency locations, or from home, workers often cannot access the same resources they have available from their office. Providing mobile Internet access through laptops and enabling password access to internal EPA sites for these increasingly mobile workers would keep them connected and productive while out of the office.

**Offer expanded and consistent operating hours that are clearly posted.** Library operating hours have been reduced and vary dramatically from one location to another. Information seekers do not know when they can count on having access to an information professional to help them in their quests. Providing consistent operating hours and creating awareness of those hours will serve to alleviate some of the stress and abandonment that some information seekers experience.

**Provide information sharing and collaboration tools.** Facilitating the easy exchange of information and ideas and enabling collaboration among EPA workers will lead to enhanced innovation as well as efficiencies and productivity. Insight into the projects that other EPA workers have in progress will lend itself to a decrease in redundant efforts and a rise in innovative collaboration.

**Improve turnaround times for interlibrary loan, especially for books.** While journal articles are usually delivered quickly enough, books often take far longer to arrive because they are in physical form. Explore access to electronic books as a more immediate resource that can be delivered instantly and leveraged across the agency due to its electronic format.

***Complete the feedback loop regarding research findings and resulting actions.*** Whenever research is conducted among an entity's patrons, it is important to close the loop with them by reporting back. A summary of the findings as well as the action steps that will be carried out as a result of the research must be communicated to them – "This is what you asked for, and this is what we're doing about it." Such communication and follow-through not only breeds allegiance and loyalty, but also fosters participation in future research endeavours.

## Key Findings

This section of the report summarizes the key findings of the research, which are detailed in the next section.

### Information Use Habits

- The information type used most often by these respondents is EPA publications/reports (49%), and the percentage of respondents selecting this type does not vary significantly across the segments analyzed. Other top information types include agency policies and guidance (48%) – mentioned more often by respondents at Headquarters and in the Regions; electronic journals (47%), and scientific and technical information (44%) – both of which were mentioned more often by respondents in RTP, Cincinnati, and in ORD Labs.
- About one-quarter of respondents mentioned electronic journals as an unmet information need (24%). This is especially true for respondents in Cincinnati (43%) and ORD Labs (40%). Respondents in Cincinnati and ORD Labs also mentioned the need for print journals significantly more often than the other segments (22% and 21%, respectively). Respondents in the Regions were significantly more likely than the other segments to indicate that they have all the information they need (45%).
- Overall 84% of respondents seek out information for themselves, and have someone else find it for them the other 16% of instances. This does not vary significantly across the segments analyzed.
- These respondents turn to Internet search engines most frequently when seeking information for their job, and this does not vary significantly across the segments analyzed. Respondents also frequently turn to colleagues or experts at the EPA; and this is especially true for respondents at Headquarters and the Regions. Many respondents use professional-specific online portals and resources; and this is especially true for respondents at RTP and Cincinnati. Respondents frequently use the EPA Intranet, especially at Headquarters, the Regions, and in Cincinnati. Respondents from ORD Labs are much more likely than the other segments to use their own personal collection. Respondents from RTP, Cincinnati and ORD Labs are more likely than the other segments to turn to internal and external library services.
- Respondents most typically find out about new information sources through an Internet search engine (30%), and this does not vary significantly across segments. Word of mouth is another frequent method (23%), especially for those in the Regions (27%).
- Respondents at EPA spend, on average, more than 13 hours each week on information tasks. These 13 hours are almost evenly divided between internal (52%) and external sources (48%). Headquarters and RTP spend significantly more time than the other segments (15 hours and 13.5 hours, respectively). Time spent by respondents from the Regions is skewed toward internally generated sources (56%). Time spent by respondents from RTP, ORD, and Other is skewed toward externally generated sources (56%, 61%, and 53%, respectively). Overall, respondents spend about 43% of the 13.4 hours each week gathering information and 57% of the time analyzing information. Proportionally the only segment that varies significantly from this is Headquarters, where only 39% of time is spent gathering and 61% is spent analyzing. According to Outsell's latest research on Information Markets and Users, information users in government agencies only spend an average of 11.6 hours each week on information tasks; therefore EPA's information users are less productive in their information gathering and analyzing activities.
- Respondents use Internet search engines more frequently than all the other information sources surveyed. The frequency is steady across all segments analyzed. EPA's Internet and Intranet sites are also used frequently, especially by respondents at Headquarters and Regions locations.
- More than two-thirds of respondents reported that they find the information they need all or most of the time (69%). Those in ORD Labs are significantly more likely than the other segments to be successful in their information searches (80%).



- The most common problem reported by these respondents is the lack of funding for library services, particularly by those in ORD Labs. Other noteworthy problems include the lack of full text, not knowing what's available, and insufficient budget for electronic resources.
- For those who rated inconvenient library operating hours as a major problem, they typically explained that the library hours have been cut and need to be expanded in order to be useful. Other comments alluded to staff reductions, limited selection, and inconsistent library hours.
- Respondents explained that remote access is a problem when travelling, working from home, or otherwise trying to work away from the office. For remote access, these respondents prefer to have mobile Internet access on their laptop (60%). Remote access is more likely to be relevant for all the segments except ORD Labs.
- Respondents reported that it takes too long to receive requested materials through document delivery and interlibrary loan.

## Use of EPA Libraries

- Approximately half of the respondents from ORD Labs, RTP and Cincinnati reported using an EPA library at least weekly. Respondents from RTP are most likely to be daily users (13%). Respondents from RTP, Cincinnati and ORD are significantly more likely than the other segments to use the library several times a week (21%, 25%, and 34%, respectively). Respondents from RTP, Cincinnati and ORD are significantly more likely than the other segments to use the library once a week (14%, 16%, and 14%, respectively). Respondents from Headquarters and the Regions are significantly more likely than the other segments to use the library less than once a month (24%, 26%, respectively) or to have not used the library in the past 12 months (30%, 24%, respectively).
- For those who have not used the library in the past 12 months, most attributed it to getting information from other sources (57%) or not knowing what services are offered (33%). Several explanations imply a general lack of awareness of offerings and how to contact the library.
- Respondents most commonly learned about EPA library services via word of mouth (30%). Library tours, orientations, open houses and electronic marketing materials have also been quite effective methods, particularly for those in RTP and Cincinnati.
- We examined the percentage of respondents who rated each of several library attributes "Excellent" or "Very Good" (top two box score). For overall quality and attributes, Outsell expects to see top two box scores between 65% and 85% - lower if this is the first measurement, higher if this is a repeat study. Obviously, higher than 85% is preferred, but is also more difficult to achieve. In EPA's case, top two box scores for most of the attributes are exceptionally good, with only three attributes rated below 65% (availability of training sessions, convenience of operating hours, and effectiveness of training sessions). Respondents from RTP tended to give significantly higher ratings across the board as compared to the other segments analyzed.
- About one-third of those giving low ratings explained that the library hours are limited and need to be increased (34%). This is particularly true for respondents in the Regions (45%). Another common complaint was the need for more training and more specific training (26%), especially for those in ORD Labs (47%).
- Nearly half of the respondents recognized that using an EPA library saves time in finding information (45%), especially those in RTP, Cincinnati and ORD Labs (58%, 55%, 63%, respectively). Forty percent also recognized that using an EPA library provides efficiencies in information gathering activities (40%); and again those in RTP, Cincinnati and ORD Labs were significantly more likely than the other segments to report such (57%, 53%, 58%, respectively). Rounding out the top three benefits is the provision of information they otherwise would not have found (39%). Respondents from the Regions and the Other segment were significantly more likely than the other segments to claim this benefit (41% and 47%, respectively).

- More than half of the respondents place most value on the provision of electronic resources on their desktop (53%). Those at ORD Labs were significantly more likely than the other segments to select this role (67%). Respondents also value help locating information (35%) and access to EPA documents (24%), and those in the Regions are significantly more likely than the other segments to value these roles (41% and 27%, respectively).
- Four out of ten respondents (41%) are interested in self-paced computer training modules. Those in RTP are particularly interested in this type of training (47%). Training on demand (39%), one-on-one training by appointment (27%), online tutorials (26%), and tailored programs (25%) are also appealing, all of which illustrate the desire for customized training at the point of need rather than a lengthier, generic approach.
- About two-thirds of respondents agree that EPA libraries provide easy access to library services (69%), provide services I will use the next time I need information (67%), help me get my work done more efficiently (66%), provide access to the most current information available (64%), and provide services I recommend to others (64%). The second and fifth statements (re-use and recommend) are key satisfaction and loyalty measures, so it bodes well that approximately two-thirds of respondents agree here. In general, respondents in RTP, Cincinnati, ORD Labs, and Other segments agreed with these statements significantly more often than Headquarters and Regions respondents. This indicates a more favorable perception of EPA libraries by these groups.
- On the lower end, respondents had less favorable perceptions of whether EPA libraries provide valuable training on information resources (42%), help share information more easily with others (44%), succeed at integrating new technologies for information delivery (50%), effectively support decision making by providing the 'right information' (53%), and are visible in the organization (54%). These findings indicate opportunities for improvement.
- Overall, respondents reported positive impressions of EPA's electronic library resources. About two-thirds agree that this information is from credible and known sources (72%) and that the resources have high quality content (66%). Respondents are less convinced that EPA's electronic library resources support their decision-making – regarding both daily (44%) and high-risk decisions (39%). Those in RTP, Cincinnati, ORD Labs and Other segments are significantly more likely to have positive perceptions of the electronic library resources. Respondents at Headquarters are significantly more likely than the other segments to find the resources too difficult to search and therefore avoid them (16%).
- Respondents generally trust information found on the open Internet, using it to make daily decisions (71%), seeing it as being from credible and known sources (68%), and feeling that it offers high quality content (60%). Those in Cincinnati are significantly more likely than the other segments to agree that the Internet contains high quality content (65%). They do, however, stop short of trusting Internet information to support high-risk decisions for the most part (only 49% agree). Fewer respondents avoid the Internet due to search difficulties as compared to EPA's electronic library resources (only 4% compared to 12%).



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