

ENVIRONMENT 2045:
Future Directions for Environmental Progress and EPA's Role
A project of American University in partnership with the EPA Alumni Association

Focus Group 3:
EPA's Relationships with States and Other Public and Private Actors

This report, facilitated and made public by the EPA Alumni Association, was developed by a Focus Group composed of the alumni listed below. The views expressed, including priorities and recommendations, are those of the authors and do not necessarily reflect the views of the Association or its Board of Directors. The Board of Directors did not review or comment on the Focus Group report. This document has not been peer-reviewed.

Authors: David Ullrich (leader), Mark Charles, Steve Chester, Kerrigan Clough, Ed Hanley, Judy Katz, Walt Kovalick, Maury Kruth, Stanley Laskowski, Philip Metzger, William Muno, Armina Nolan, and John Whitescarver.

1. Executive Summary: Relationships

The charge for Focus Group 3 of Environment 2045 was to identify key relationships needed for environmental protection among EPA and public and private institutions and identify actions to build trust and effective combined governance. The key recommendations are:

- **States:** EPA with states and their NGOs, especially ECOS, better define responsibilities and streamline processes and oversight and reduce duplication of effort. Work toward joint governance by streamlining the Performance Partnership System (see Appendix), fully implement E-Enterprise for the Environment (see Appendix), address in joint planning between states and EPA regions the priorities of each state and multi-state needs.
- **Tribes:** In recognition of EPA's trust responsibility work with the tribes to identify and address highest priority public health and environmental risks in Indian country. Streamline the process for authorization of programs to tribes and update grant programs for tribes, especially GAP. EPA provide a convener role to help resolve disputes between tribes and states and engage other Federal agencies to assist.
- **Local Governments:** In coordination with states and tribes, make local governments essential partners in a "national enterprise for environmental protection". Design a collaborative mechanism for EPA to assist local governments directly to address priority issues affecting them the most, such as climate change.
- **International:** Work collaboratively with other Federal agencies and the Canadian and Mexican environmental agencies to address cross border problems. Form partnerships with NOAA and NASA and international organizations like the EU, OECD, and UN environmental institutions to address both mitigation and adaptation to climate change.
- **Private Sector:** Improve EPA's communications with regulated entities, work on the front end of emerging problems directly with private sector organizations and reinvigorate voluntary programs like 33/50 toxic reductions by setting stretch goals like 75/90. Fully implement E- Enterprise for the Environment, permit portals, and electronic compliance data submissions.

- **Non-Government Organizations:** Expand transparency, data availability, and regular dialogue with NGOs. Convene seminars with NGOs and include as appropriate private sector participation especially on emerging issues and issues for the future as identified by Focus Group 1. Actively cultivate “citizen science” and support advanced technology.
- **The Public:** Strengthen the public trust by opening its deliberations and records and meeting FOIA timelines. Greatly increase access by the public and news media to career experts in the Agency. Expand EPA’s use of social media. Expand upon EPA’s historically recognized reputation as a science and fact-based Agency by objectively presenting significant data, information, knowledge, risks and proposed solutions.

2. Introduction

The presidential order of December 2, 1970 that created the United States Environmental Protection Agency (EPA) came at a time of political turmoil and serious public concern about the environment, civil rights, and the war in Viet Nam. Congress responded by passing a whole series of environmental laws over the following decade based on the principle of cooperative federalism that gave key roles to EPA and the states. EPA engaged in its mission aggressively to protect public health and to achieve cleaner air, water, and land. There was strong public support for EPA, and the states, tribes, local governments, the regulated community, and non-government organizations (NGOs) responded with a mix of support and concern. Relations with those other public and private entities have evolved over the years and have always been an important part of the environmental protection enterprise. There is always a certain amount of tension in those relationships. The challenge is to make it creative tension rather than destructive tension. As EPA looks to its 75th anniversary in 2045, it needs to continue working to advance these relationships to make them more productive to enhance protection of public health and the environment. This paper outlines how that might be accomplished.

At the outset, it is particularly appropriate to consider the future environmental challenges that have been described by Focus Group 1, as these are the challenges that EPA will have to address with States and other public and private actors. These challenges are different from those that the Agency faced when it was formed nearly 50 years ago. They will require the agency to define itself more broadly as a convener and collaborator that actively seeks to bring all parties together in a problem-solving mode to advance protection of public health and the environment.

The views expressed in this report generally reflect those of the individual EPA alumni who participated in the focus group and do not necessarily represent the views of the EPA Alumni Association affected parties together in a problem-solving mode to advance protection of public health and the environment.

Another overarching consideration is the potential for significant expansion of the Performance Partnership System and E-Enterprise to redefine the roles, responsibilities, and relationships, primarily between EPA and the states, but also with tribes, local governments, and possibly other entities. This is addressed in an appendix to this document.

3. Relationships with the States

Relationships with the states are obviously the most significant and challenging under a system based on cooperative federalism that places significant responsibilities on the states. States had the primary authority relative to the environment up until 1970, and their relationships with EPA as a whole and its components have varied widely thereafter, from tense and fraught to highly

collaborative. Each EPA regional office and each state represented a different relationship, and often the relationship in each program area was different. Not surprisingly, personalities often influenced how well people worked together. The EPA regional relationships with EPA headquarters was also a factor, and most states have their internal structures, as well, with a whole additional set of relationships with head offices in the state capitals. Over the years, state agencies and EPA have grown in size and capacity to a point where most programs are operating effectively under state primacy and environmental improvements are being achieved. At the same time, with increasing population, development, and new challenges, both states and EPA are not short of work. The real question is how to define the roles and responsibilities of states, EPA regions, and EPA headquarters, and the relationships among them, in an evolving way that reflects the varied and changing capabilities of the partners and of the priorities among environmental problems across the country. EPA is also responsible for addressing emerging issues, providing guidance to the states, maintaining an essential baseline of protection, and keeping a level playing field across the country, recognizing some degree of flexibility to address regional and local differences.

To ready itself for effective and efficient environmental protection in 2045 working with the states, the recommendations for EPA are:

- Starting 2020, EPA headquarters and regions engage directly at the highest levels with the representative state organizations such as the Environmental Council of States to define responsibilities and streamline processes and oversight. EPA Headquarters provides effective management of the EPA regions to ensure consistency where necessary and to encourage innovation and regional prioritization of problems and solutions.
 - a. Each Region should jointly plan, evaluate, and prioritize key environmental issues in full partnership with its state environmental department directors and other key state departments such as the agriculture, public health, commerce, and natural resource departments. The Regions and EPA Headquarters provide grant and other resources to address the priorities identified, including hands- on technical assistance working with state counterparts.
 - b. Update and streamline the Performance Partnership system (see Appendix) to provide flexibility and accountability and deliver training to Regions and state representative organizations on the system.
 - c. With state participation, direct EPA state program oversight at priority environmental problems. EPA will always play a focused and well understood backstop or safety-net role in environmental protection to the states.
 - d. Use EPA compliance and enforcement resources directly or jointly with states where state action has not returned sources to compliance, or where especially complex matters are being addressed.
 - e. Cut the overlap of program delivery provided by EPA, states, and tribes. Overlap is expensive and causes confusion and hostility from the private sector.
 - f. EPA inventories and communicates effectively what it can and will bring to the table (technical and scientific assistance, research, funding) to help make states and multi-state priorities successful. EPA can and should play a convener role that is welcomed and sought out.
 - g. EPA, working with the states, develops and implements a program certification process to reduce or eliminate oversight based on state performance.

- EPA and partners from professional and non-profit organizations should develop training programs and technical and scientific delivery processes to complement the work of the states. This technical support and training should be available in each region and should be modeled on the Superfund technical support centers.
- Access the successes of past collaborations where EPA has been a significant player (Great Lakes, Chesapeake, Montreal Protocol, and others – see appendix) and identify both common and unique characteristics of success. Use this to develop a cadre of staff who can effectively replicate these successes.

4. Relationships with Tribes

The Federal government has a trust responsibility to all the tribes in the United States and must deal with them on a government to government basis. EPA has an even greater responsibility given the importance of the natural world in indigenous cultures and their desire to manage their natural resources sustainably and maintain, and improve if needed, the quality of their environment. Tribes have very special environmental concerns related to air and water quality, safe drinking water, contamination of their lands by mining and other uses, the need to restore land impacted by these uses, and the application of pesticides, among others. Tribes have concerns for the health and safety of their fish resources because of their high fish consumption. Tribes also share concerns about climate change that has resulted in extreme weather events and put other pressures on their lands, especially those in the coastal zone.

In the 1970's and 1980's, tribes began to exercise their treaty rights more than they had in the past, and this related directly to environmental quality and fish and wildlife. EPA has worked closely with the tribes over the years, and their capacity to care for the environment on their land has increased steadily in that time. EPA should continue to assist Tribes in the assessment of environmental risks which are ever changing and increasing because of climate change, increased pollution, and other threats. EPA should facilitate relationships between states and tribes as well as among tribes to optimize delivery of environmental programs. EPA should also continue to help tribes build capacity to enable increased self-determination in the future, consistent with EPA's trust responsibility.

The recommendations for 2045 are:

- EPA will assess risks in Indian country and work with the tribes and other Federal agencies to prioritize and address these risks. EPA will strengthen Tribal environmental programs and protect public health in Indian Country. EPA will encourage Tribes to develop consortiums or other relationships to increase the effectiveness of their environmental programs.
- EPA will streamline the process for authorization of tribal programs, including approving partial authorization for tribes willing to assume direct responsibility and able to carry out those programs.
- EPA will increase the efficiency of tribal grant programs, especially GAP programs, by directing funds to the most pressing problems and to the tribes with the greatest interest and capacity for assuming direct program responsibility. EPA will update its regulations to expand the implementation of critical programs. If appropriate, EPA will move Tribes toward a flexible Performance Partnership system as with the states.
- EPA will play a convener role to resolve program disputes between tribes and states and collaborate with other Federal agencies to resolve these disputes.

5. Relationships with Local Governments

It is important to note at the outset that local governments are both regulated and are regulators. Although they have always had environmentally related responsibilities relative to land use, drinking water, wastewater, pretreatment programs, nuisance from air pollution, solid waste, and other areas, they have not been a major player in national environmental programs. That is changing. Driven largely by climate change, cities have moved forward aggressively with sustainability programs, mitigation of carbon emissions, adaptation and resilience to major storm events and heat waves, green infrastructure work to manage storm water and create habitat, and much more. Cities have the ability to move much more rapidly to deal with issues like plastics and pharmaceuticals in water than the much slower state and federal legislative and regulatory processes. EPA did cultivate many productive working relationships with cities with both technical programs (i.e. pretreatment) and site redevelopment (i.e. grants as part of the brownfields program.) Expanding and offering both of these approaches should be examples as to how to enable cities to help address the problems of the future. Also, as urban populations continue to grow, now over 50% of the global population is in cities growing close to 70% by 2050, it will be even more important for EPA and states to work with cities.

The recommendations for 2045 are:

- Make local governments essential partners in a “national enterprise for environmental protection,” as they are closest to the environmental challenges EPA and the states attempt to manage.
- Design a collaborative mechanism with states for EPA to assist local governments directly.
- Regional and geographic environmental initiatives include local governments as full partners along with the states using the technical and fiscal approaches noted above to leverage local resources to help address the highest priority problems of the future.
- With climate change affecting local governments the most, EPA works with other Federal agencies to develop effective assistance for adaptation, resilience, and mitigation efforts, and streamlines its NEPA responsibilities to get quicker infrastructure decisions.

6. International Relations

EPA established itself as an international leader in environmental work soon after it was created in 1970. The strong programs created by Congress led to an explosion of environmental technology that advanced not only protection of the global environment but also contributed significantly to the US economy. With the US economy still the largest in the world, we have a major influence on the condition of the planet. In the past, EPA engaged in development of the Montreal Protocol related to CFCs, which was a major success in reducing the shrinkage of the ozone layer, the Basel Convention dealing with the export of hazardous wastes, the Stockholm Convention which addressed toxic substances including PCBs, and international climate change discussions, even though it did not sign on to the Kyoto Protocol and has now stepped away from the Paris Agreement. The U.S., and EPA in particular, will need to be a major player on the international stage relative to climate change and other future globally significant challenges, as well as bi-nationally with Mexico and Canada on a whole range of issues.

The recommendations for 2045 are:

- EPA strengthens its partnerships with NOAA, NASA, and other Federal agencies to collaborate on climate mitigation and adaptation strategies.

- EPA strengthens relationships with the UN, the OECD, the European Union and other relevant international organizations and develops a long- term plan of action related to climate, toxic substances, oceans, and water quality issues of the future.
- EPA strengthens relationships with the Canadian and Mexican environmental agencies to address cross border environmental problems including toxics from and into Mexico, water pollution and species transfers from and into Canada, and trade issues where EPA has a key role, especially pesticide registrations and labeling.

7. Relationships with the Private Sector

Those parts of the private sector in the regulated community under environmental laws and regulations probably have the most at stake in their relationship with EPA, although there are others not regulated that are important, too. Clearly, the strong environmental laws of the 1970s put EPA in a position of direct confrontation with the regulated community. Whereas almost all environmental protection work was done in response to state initiatives or on a voluntary basis prior to that time, companies had to install very costly and sophisticated equipment to comply with the new requirements. Relationships stabilized somewhat as companies adjusted to the mandates and associated costs from the original air, water, and waste programs, but the Superfund law changed that dynamic with its strict, joint and several, and retroactive liability for hazardous waste disposed of improperly before the law was passed. Expensive cleanups where goals and approaches were unclear, and transaction costs very high, led many in the regulated community to resent what they considered to be a fundamentally unfair law. Relationships improved somewhat with the advent of voluntary programs like 33/50 toxic reductions, green lights, and green chemistry, but they were not a major part of the EPA portfolio and did not last that long. Another part of the private sector that is in a unique position is agriculture. Although exempted from many environmental laws, there is increasing pressure on this sector in the debate over the waters of the United States definition and the contribution of agricultural runoff to major water pollution problems. Other elements of the private sector that watch EPA closely are consulting and engineering firms, technology firms, chemical firms, law firms and others who have been very successful financially because of environmental requirements. EPA will need to look to all of these private sector relationships to see how best to make them more productive in the future. In general, EPA should focus on helping the private sector to protect the environment, in addition to its role as a regulator and enforcer.

The recommendations for 2045 are:

- Improve communication and understanding among all levels of government and the private sector through initiatives like E-Enterprise, permit portals, and electronic submittal of compliance data.
- EPA focuses on continuing dialogue with industry to develop productive working relationships prior to embarking on specific efforts to write new rules. It makes updating rules that require change a priority.
- EPA encourages and convenes industry partnerships with states, local governments and NGOs to assist companies of all sizes, especially small and medium sized enterprises (SME's) with compliance problems and, through technical assistance and pollution prevention, moves many small companies out of the regulatory loop altogether
- EPA reinvigorates the voluntary 33/50% program to reduce toxic releases by those percentages over baseline levels, and, working with industry, increase the goals to 75/90 % in a set period of time.

8. Relationships with Non-Government Organizations

EPA probably has the NGOs and the general public to thank for its existence and much of its success over the years. The pressure from NGOs on Congress to pass and maintain strong environmental laws and on EPA to develop protective regulations and enforce them has been an important ingredient in the effective environmental protection formula for almost 50 years. Although the NGOs have often been very critical of EPA and taken it to court countless times, their presence has served to counter the push from the private sector to weaken the requirements imposed on them. Finding the balance within the different perspectives on environmental regulation is the constant challenge for EPA. The Agency must always maintain an arms-length relationship with the NGO's and the private sector, but must recognize how the counter veiling forces might best be used to enhance environmental protection.

It is important to note that many if not all of the interests described have NGO associations to represent them in matters related to EPA. These groups are important and EPA, especially at the headquarters level, needs to have a strong working relationship and good communication with all of them.

The recommendations for 2045 are:

- EPA expands transparency, data availability, open communications, and regular dialogues with NGOs in keeping with the Records Act and Administrative Procedures Act, to reduce the perceived need for litigation between the parties.
- EPA convenes seminars with industry and NGOs to flag emerging issues and develop a common dialogue and strategies.
- EPA invites NGOs to the table as an observer and in some instances as an active participant, especially in multi-governmental problem-solving settings like regional and geographic initiatives.
- EPA actively cultivates citizen science with support for hand-held monitors, phone apps for measuring air and water quality, and other advanced technology.

9. Relationships with the Public

The public outcry of the late 1960's led to the passage of strong environmental laws and the creation of EPA, and public support has been important to environmental protection all along. This is the essence of a democratic society. EPA has worked hard over the years to inform the public about its operations, and include them in rulemaking and permitting procedures. EPA also seeks broad public input on major issues that need to be addressed even before regulatory programs are created. Because of the complex nature of the problems and the solutions, communication with the public is not easy. EPA must strive constantly to get timely, understandable information to the public using communication techniques, including social media, to make information to those who wish to know and understand what is going on in the environmental world. The public must also have an opportunity to participate in proceedings that will affect their well-being.

The recommendations for 2045 are:

- EPA strengthens the public's trust by opening its deliberations and records more and meeting FOIA timelines.
- EPA greatly increases access by the public and news media to career experts in the Agency and direct contact with the knowledgeable staff and reduces its reliance on its public affairs

representatives for communications with the public and news media. EPA expands its use of social media.

- EPA expands its reputation as a science and fact-based Agency by presenting objectively the significant data, information, knowledge, risk and proposed solutions.

10. Appendix 1: The National Environmental Performance Partnership System (NEPPS)

10.1. Performance Partnership Agreements and Grants

The National Environmental Performance Partnership System (NEPPS) was started in 1995 to enable flexible use of EPA grant money matched with priority setting by states and tribes and EPA. NEPPS is a key element for building strong joint governance relationships between EPA and the states and tribes. (See 40 CFR Part 35). EPA and states and EPA and tribes share responsibility for protecting human health and the environment. NEPPS provides the administrative and funding underpinning for shared responsibility and encourages joint priority setting between EPA regions and states and between EPA regions and tribes.

Performance Partnership Agreements (PPAs) are strategic and can be multi-year plans. They are based on an assessment of environmental conditions and program implementation needs, analysis of approaches and tools that are most likely to bring the greatest environmental results, and jointly developed goals and priorities that are translated into plans at the operational level.

Performance Partnership Grants (PPGs) provide funding flexibility to enable states and tribes to address their priority environmental conditions. Under traditional environmental program grants, states and tribes receive funds to implement “categorical” programs: water, air, pesticides, drinking water, etc. With PPGs all categorical grants that a state or tribe are eligible to receive can be combined into one grant and used to address the priorities identified in the PPA. Congress approved the mixing of funds into PPGs beginning in 1995.

In states both the environmental departments and the agriculture departments use PPAs and PPGs. As part of the planning process the EPA regional offices identify not only Federal funding available for PPGs but also EPA resources including hands on assistance, technical assistance, and training needed by states and tribes to implement priorities identified in the PPAs.

Local governments and other Federal agencies can be tied into PPAs to meet both individual states and tribes needs but also for multi-state, regional, and geographic initiatives. NEPPS is a key administrative tool to be used by the E- Enterprise for the Environment initiative (see Appendix on E-Enterprise). NEPPS will be useful in addressing new and emerging environmental problems and can become an important set of tools to address climate change and other issues identified by the EPA 2045 Focus Group 1 on priorities for the future.

In addition to providing the administrative underpinnings for strategic planning and operational implementation to address priority environmental problems, NEPPS saves money in the award, management, reporting, and oversight of Federal grant money and saves states and tribes time in managing and reporting on use of Federal grant money. To ensure that fundamental work occurs in protection of air, water, land, and other issues meant to be addressed by the individual environmental statutes and the categorical grants, NEPPS requires baseline work on these traditional priorities as part of the PPAs.

11. Appendix 2: E-Enterprise for the Environment

E-Enterprise for the Environment is a new model for collaborative leadership among EPA, state, and tribal environmental co-regulators that can provide the foundation for more expansive and creative flexibility in EPA-state and -tribal relationships, and more productive and responsive engagement of the regulated community and the public.

More than 45 years after the creation of the EPA and the enactment of a broad set of federal environmental protection laws that states and tribes may be authorized to implement, the levels of government have developed complementary areas of expertise. By recognizing the advances that these co-regulators have made in implementing environmental programs, E-Enterprise uses shared governance to streamline business processes and leverage technology, enabling the nation's environmental protection enterprise to be more informed, timely and productive. Through E-Enterprise, U.S. EPA, states, and tribes are working together to transform the way shared responsibilities for program implementation strengthen the national enterprise for environmental protection to benefit the regulated community and the public as well as governments and co-regulators. (An overview of E-Enterprise, many important documents, and joint project lists are available at <https://e-enterprisefortheenvironment.net> and <https://www.epa.gov/e-enterprise>.)

E-Enterprise seeks to (1) streamline and update processes to implement and administer environmental programs, (2) reduce transaction costs and burdens for the regulated community by leveraging technologies, such as promoting electronic reporting and permitting, online portals and business practices, training and assistance, and other tools (see E-Enterprise projects), (3) transform the way environmental programs are implemented through collaboration and shared governance, and (4) improve the transparency of government decision making to better achieve shared public health and environmental goals.

To establish E-Enterprise as a new way of doing business, EPA has sought to embed it in EPA's formal operational structure, as when many E-Enterprise projects were included in the FY2016-2017 National Program Manager (NPM) Guidance, the Partnerships Action Plans took several key steps to broaden participation in E-Enterprise, and EPA issued the Guidance on E-Enterprise Workload Tradeoffs Using Performance Partnership and Individual Grants (<https://www.epa.gov/e-enterprise/e-enterprise-tradeoffs-guidance>). This step empowered states and tribes to request EPA regional offices to facilitate temporary tradeoffs in traditional work plan activities, to provide space and support for early engagement and collaboration with EPA on a business process modernization project or activity. Since its inception, E-Enterprise has selected projects collaboratively, choosing them from among planned or ongoing activities by EPA, states, or tribes that promise national benefits if expanded to be undertaken jointly.

The project lists illustrate both the achievements and the great promise of this effort. One particularly exciting activity funded by EPA, the State and Tribal Inventory project (info at <https://www.eecip.net/Home?ReturnUrl=%2f> and <http://www.exchangenetwork.net/news/youre-invited-to-join-the-e-enterprise-community-inventory-platform/>) dramatizes how E-Enterprise can advance state and tribal empowerment to strengthen the national enterprise for environmental protection. The inventory is a truly unprecedented activity for States and Tribes to collect information about and understand their own projects, programs, innovations, and enterprise services nationally, both to better enable mutual assistance and best-practices sharing,

and for states and tribes to identify their shared self-interest in projects, agendas, and policies that are or could be placed on the broader E-Enterprise agenda.

12. Appendix 3: Collaborations

Examples of successful collaborations that EPA has been a part of that should be benchmarked for future practice:

- Great Lakes Regional Collaboration and Restoration Initiative
- Chesapeake Bay
- Puget Sound
- Ozone Transport Commission
- Acid Rain
- Montreal Protocol
- Region Haze Program
- Regional Greenhouse Gas Initiative
- Utah/Counties/EPA Grand Staircase-Escalante project
- Colorado Pollution Prevention Project
- Lake Michigan Air Consortium (4 states)
- San Francisco Bay
- Everglades
- Gulf of Mexico

13. Appendix 4: Focus Group 3 Members

| Name | Experience |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mark Charles | HQ, Attorney, and Branch Chief Office of Water and OECA Water Enforcement, NPDES Manager for States of Arizona and Oregon, Waste Programs Director for Arizona. Director of environmental Programs City of Rockville, Maryland (over 35 years of government experience) |
| Steve Chester | DAA, EPA OECA (August 2011-March 2014) Deputy Director, EPA Office of Criminal Enforcement; (January 1994-August 1995) Deputy Enforcement Counsel for RCRA, EPA Office of Enforcement (November 1992-January 1994). Director of the Michigan Department of Environmental Quality from January 2003 to January 2010 |
| Kerrigan Clough | HQ (7 years) Intern (1 year), Administrator’s staff (Deputy COS) (6 years) Labs (5 years)- National Enforcement Investigations Center (2 years), Cincinnati Lab (3 years); Region 8 (25 years) - ARA for Management (10 years), ARA for State, Tribal & Regulatory Programs (10 years), DRA (5 years) |
| Ed Hanley | DAA-OARM (12 years), CIO (3 years) Administrators Office (5 years) |
| Judy Katz | Branch Chief in the Region 3 Office of Regional Counsel. Region 3 Air Division Director. Director of the Region 3 Office of Enforcement. OECA attorney at EPA HQ |
| Walt Kovalick | Regions 4 and 5--Air Program development; HQ--Hazardous Waste Program; HQ--TSCA regs program manager; HQ--Manager for Superfund and technology development programs; Region 5--ARA for mgt., labs, etc. |
| Maury Kruth | Cincinnati with OSWMP as PHS Officer; DC HQ including detail in Deputy Administrator's office; Region IX Enforcement and IPA assignment as a District Engineer in State of Hawaii |

| | |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Stanley Laskowski | Region 3 DRA, Superfund, NPDES, water, environmental monitoring |
| Philip Metzger | Chief Policy Counsel to AA/OW, Senior Policy Counsel to Deputy Administrator, and Senior Policy Counsel to CFO for E- Enterprise |
| William Muno | Region 5 - Superfund Program Manager (11 years); RCRA Program Manager (3 years); 12 years total RCRA experience. Water Permitting and Enforcement (9 years). 31 years total at Region 5 |
| Armina Nolan | Field inspector at Puget Sound Air Pollution Control Agency. Region 10 Office of Air and in the Office of Water; grant management officer. Service Center West Director for Interagency Agreements |
| David Ullrich (FG leader) | Region 5- Air and Water Enforcement Division 1973-1981; Deputy Regional Counsel 1981-1987; Waste Management Associate Director and Director 1987-1991; DRA 1992-2003 (Acting RA 2 1/2 years); Executive Director, Great Lakes and St. Lawrence Cities Initiative, 2003-2017 |
| John Whitescarver | HQ, Water, NPDES and Effluent Guidelines, 1971-80. Still working. Visit NPDES.com, NPDEScompliance.org |

