



## Building State and Tribal Oil and Gas Pipeline Permitting Capacity through Training

*An Association of State Wetland Managers' Pipeline Permitting Project Resource*

### Introduction

Wetland professionals, whether working for state and tribal wetland programs or in other capacities, are faced with a diverse and complicated set of tasks in their day-to-day work. Not only do they need to understand wetland science, monitoring and assessment, restoration, regulatory and legal information, and policy, they need to acquire leadership, management, research and evaluation skills. Whether or not they receive a rigorous training on these topics as part of their formal education, they all remain challenged to stay abreast of the latest science and technologies to allow them to do their jobs to the best of their ability. This reality means that ongoing training should be a cornerstone of wetland permitting programs, providing staff with access to continuing education opportunities and qualified trainers.

Additionally, with wetland professionals turning over in many states due to retirements, budget cuts and reorganization, the need for training is pressing. This document identifies information that may be useful to those seeking insights on how to utilize training to increase the capacity of state or tribal staff to conduct effective and efficient pipeline permitting.

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### A Pressing Need for Pipeline Permitting Staff to Receive Up-to-Date General and Specialized Training

ASWM consistently hears from states that finding the resources to address their many and varied training needs continues to be a challenge. In order to get at the root of training quality and delivery needs, ASWM has worked to identify barriers to state and tribal staff receiving the training that they need to review permits effectively and efficiently.



### *Key findings related to state and tribal oil and gas pipeline permitting training needs include:*

- ❖ Access to high quality, affordable, accessible training opportunities is limited.
- ❖ Given rapid advancements in wetland science and limited training budgets and workloads, it can be a challenge for states and tribes and also for all wetland professionals to attain and maintain knowledge of cutting-edge science, law and policy and to obtain continuing education in the use of current tools and technology.
- ❖ This is especially true for staff in areas where natural gas pipeline projects are being developed for the first time or in greater numbers than in the past. Understanding the complex language, concepts, processes and technologies involved with the review of pipeline permitting can be overwhelming. Training is needed on regulations, laws, best practices and latest technologies, as well as how to assess potential impacts and effects. This training is needed first on the general level and then on an increasingly technical level as roles require more detailed understanding and applications include emerging practices that require context-specific understanding and expert input. *For example, the decision on whether Horizontal Directional Drilling (HDD) requires an in-depth understanding and assessment of its appropriateness in a proposed location.*
- ❖ Due to budget constraints and internal travel policies, state and tribal field staff members are even less likely than managers to be afforded the opportunity to participate in offsite training and conferences, even though this knowledge is essential to making decisions on the front line and improving the management and protection of wetlands.
- ❖ State and tribal wetland staff members often lack access to scientific journals and other resources required to study independently.
- ❖ While the characteristics of high quality training are well-established in the research literature and can offer insights to improve wetland training, many trainings do not attain best practices.

## Training Needs of State & Tribal Staff

ASWM continuously conducts needs assessment about the training needs of states and tribes, ASWM collected additional information about what states and tribes felt they needed in order to more effectively and efficiently work on planning and permit review activities related to oil and gas pipeline development applications. To fully inform planning for pipeline training, a formal needs assessment should be conducted to establish which states and tribes need specific training and at what level. The list does not identify the complete universe of training needs of states and tribes. Rather, it identifies examples of training needs that have been shared with ASWM. Training needs are not listed in priority order.

*State and tribal staff training needs related to oil and gas pipeline permitting include, but are not limited to:*

- ❖ The Clean Water Act, including the Section §404 Program and §401 Water Quality Certification Program and how both are involved in oil and gas pipeline permitting
- ❖ The role of Nationwide Permits
- ❖ Wetland basics – hydrology, soils, plants, biology, hydro-bio connections, etc.
- ❖ Potential water quality impacts from oil and gas pipeline development and maintenance activities (temporary and permanent impacts; direct, indirect and cumulative impacts)
- ❖ Training on avoidance, minimization and mitigation and how they relate to pipeline permit planning and review
- ❖ How to assess and incorporate consideration of cumulative impacts into permit planning and review
- ❖ Specific training topics related to pipeline permitting include:
  - what permitting processes are required
  - which agencies are responsible for what elements of the permitting process
  - specific steps and timing for different pipeline permitting processes
  - at which points in the permit process is the reviewer provided opportunities for input
  - §401 certification review options (approve, waive, condition, or deny)
  - what constitutes a complete §401 certification application (this must include discussion of state/tribe-specific requirements)
  - how to review a permit and provide input
  - Common or critical best practices to consider for different phases of the permitting process
  - what types of conditions have been successfully incorporated into permits in other states/tribes (peer-to-peer sharing)
  - how to integrate requirements into permits
  - how to develop, implement and evaluate mitigation requirements; and
  - how to review and evaluate planned outcomes.
  - Training on “little known but important aspects” of pipeline construction and how to address these in review and conditioning
- ❖ Peer-to-peer sharing on permitting processes and activities that have been effective and efficient in other states/tribes
- ❖ Information about the differences between oil and gas pipeline projects and their permitting
- ❖ Training on long-term impacts from habitat/wetland conversion attributed to pipeline projects
- ❖ Training on targeted monitoring and assessment techniques and tools
- ❖ How to effectively use monitoring and assessment tools to measure performance
- ❖ Training on restoration options and performance measures
- ❖ Training on building positive work relationships with the range of permitting process participants





## What is “High Quality” Training? How Do We Know It When We See It?

In 2016, ASWM staff (in collaboration with the national project workgroup) conducted a review of peer-reviewed and training industry literature on training quality. The project produced a matrix of key characteristics to guide practitioners developing training activities, as well as wetland professionals seeking to participate in high quality learning opportunities (Table 2).

Key characteristics address elements, ranging from quality of teaching staff and a foundation based on sound science to training approaches and evaluation. ASWM encourages wetland professionals to evaluate training alternatives based on these characteristics, by examining whether specific elements are in place and encouraging those who develop training to adopt them.

**Table 2. Characteristics of High Quality Wetland Training**

Is based on thorough assessment of target audience’s training needs	Limits participant numbers to allow for interaction appropriate to the training type	Provides opportunities for participants to ask questions
Is taught by high quality trainer(s)	Includes a diversity of participants and embraces different learning styles	Provides opportunities for participants to express personal perspectives
Identifies minimum skill-level required	Emphasizes how content could impact the work of participants	Provides opportunities for participants to interact with each other
Is based on sound science	Provides examples of the content/practices in use	Allows participants opportunities throughout to provide feedback to the trainer
Provides learning objectives	Includes experiential component, as appropriate for the training type	Provides opportunities to reflect on what was learned
Circulates a description of the training, speakers and agenda prior to the training activity	Provides opportunities for participants to share their own experiences	Includes evaluation and is accompanied by support resources
Is focused and well-paced; Has clear direction	Employs humor/fun in teaching	Has before-during-after strategies to ensure training is transferable directly to job
Is scheduled at convenient times and locations; regular schedule is provided for multi-session trainings	Utilizes engaging visuals	Provides a supportive post-training environment

Source: [https://www.aswm.org/pdf/lib/characteristics\\_of\\_high\\_quality\\_wetland\\_training\\_factsheet\\_042817.pdf](https://www.aswm.org/pdf/lib/characteristics_of_high_quality_wetland_training_factsheet_042817.pdf)

## Matching Training Needs with the Right Training

ASWM has found that the vast majority of wetland professionals prefer participating in onsite training workshops; however, their ability to participate in this kind of training is very limited<sup>1</sup>. Training participants have indicated that while they *prefer* face-to-face onsite training, they are far more *likely* to participate in online training opportunities. Primary factors include a lack of training opportunities, timing (trainings are not offered when they need it), and lack of funding. While online options are often applauded for providing training in a highly accessible format at less cost to participants, findings indicate that webinars and online modules cannot replace some key elements that can only be provided through on-the-ground training.

To help State and tribal staff sort through decisions about which trainings to develop, participate in and resource, ASWM has developed the following *Matching Training Needs with the Right Training Checklist* (Table 3).

Table 3. Matching Training Needs with the Right Training:  
A Checklist for States and tribes

- Who is conducting the training? Do they have the necessary expertise, credibility, teaching skills to meet the training need?
- What type of training are you looking for? Does this training meet those expectations?
- Does the training utilize the most effective delivery mechanism to meet those needs (classroom, online, fieldwork, etc.)?
- Does the training focus the content level at the needed level of education (undergraduate, graduate, professional/continuing); (novice, intermediate, experienced, expert)?
- Is the geographic location of the training accessible for staff?
- Is the cost of the training within agency budget or can additional resources or discounts be secured to make it affordable?
- If continuing education/certification credits are needed by staff, does the training provide the necessary credits? Are those credits accepted by the required accrediting agency?

The [Association of State Wetland Managers](#) is a 501(c)(3) nonprofit incorporated in 1983 with the mission to incorporate sound science into wetland policy. For more information, contact Brenda Zollitsch, Senior Policy Analyst at [Brenda@aswm.org](mailto:Brenda@aswm.org) or call (207) 892-3399.

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<sup>1</sup> Zollitsch. (2016). [Increasing Access to High Quality, Affordable Wetland Training for On-the-Ground Wetland Professionals in the United States](#). Wetland News. September/October 2016.

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