## July Lean Week

The week of July 28 we held advanced Lean training and a mini, three-day Lean event:
- Lean three-day coordinator training which trained 19 new DEC staff and 11 staff from other agencies
- Three-day mini-Lean event for our Compliance & Enforcement Division, focused on complaint response
- Full day advanced training for DEC managers, focused on Lean leadership, tools and problem solving
- Three-hour Lean planning session with the BTI Committee

## Lean Project Status

To date, DEC has held a total of six Lean events with one mini-event in July. Our mini-event took place over three days instead of the full week we have used for the other projects, and we used a new (to us) Lean tool called a "process matrix" to analyze the current state of our complaints tracking process.  Details are below.

Enforcer Mini-Event

This event was held on July 30 – August 1, and focused on the need for an incident tracking system across DEC.  Using the "process matrix" tool, we developed a visual representation of all the different processes used in the department to track complaints.  Our goal was to identify process groupings or commonalities that could be streamlined using other Lean tools such as value stream mapping. Currently complaints come into the Department through a variety of methods, and are captured through different tracking systems.  There is no existing interoperability between these systems, and in some areas the tracking is minimal or done with paper.  This creates several problems such as lack of retrievable documentation, poor coordination on multimedia or cross program incidents, lack of accountability and transparency, and lack of accurate tracking of the overall work done as a department handling complaints and violations.

An enforcement database exists, but it is not being used department-wide.  This database will be rebranded as an Incident Tracker, and retooled to better tailor it to program needs.  Programs not currently tracking with a database will need to begin tracking using this database or an equivalent one that can be linked.  This Incident Tracker will also be linked to other existing program databases.  Taking these actions will allow the entire universe of complaints being handled by the department to be documented and tracked to completion.  Employees would be able to readily retrieve information on any complaint or incident being managed and determine who is responsible for any aspect of that management.  Enterprise level information on complaints and violations could also be more accurately reported to stakeholders such as the public and legislature.  Metrics for this project include measuring number of staff trained to use Incident Tracker, number of those using Incident Tracker, and measuring the reduction of tracking being done with paper.  Given the enterprise-wide nature of this project, many implementation tasks will begin getting rolled out in the shorter term but will not have full completion for a year or more, e.g., establishing linkages with all the existing databases and building unique front ends with universally accessible back ends.

Petroleum Cleanup Fund Reimbursement

Petroleum Cleanup Fund Reimbursement is how DEC reimburses responsible parties and their environmental contractors who cleanup petroleum contamination. The timing of the reimbursement process is critical to these businesses because it requires that they invest large sums of money upfront. Streamlining this process also creates increased capacity for our hydrogeologists and engineers to focus on cleanups, rather than non-value added steps in claims processing. Our goal is to increase the percentage of reimbursements that take place within 30-days from 10% to 95%.

Since the last update, the new database system has been piloted and staff training has begun on changes to our internal systems.  Once trainings are completed, the new database will be released and placed into the current business process, accomplishing the three main objectives of what we are calling the "Good" state.  First, the program manager will be able to use a new automated expenditure tracking feature to readily search any billing category over a given period (currently all expenditures are manually tracked in Excel).  This change will save time, reduce transposition errors, and greatly enhance the ability to track expenditures.  Second, the program manager will be approving project budgets, as

opposed to individual payments for projects, allowing more efficient flow of the payment process and improving accountability for budgets at the front end.  Overall, the first two objectives allow for nimbler management of budgets and expenditures.  Third and last, the contractors will now have access to view administrative and technical review status for PCF claims, as well as the actual payment status, thus allowing them to address their subcontractor obligations more effectively, and on our end reducing staff time handling review status requests.

The PCF "Great" state will be characterized by having an online PCF reimbursement submittal system for the public to use. The project estimate has been approved and the DEC Business Analyst is currently interviewing external stakeholders to gather all requirements. This project is on track to be completed by January 2015.  Once implemented, this solution will allow the consulting community to upload documents like work plan/cost estimates and PCF reimbursement requests online - eliminating the need to mail paper copies to the State.  The system will also allow the Responsible Party (consultant's client) to review and approve the documents for state submission.  This will eliminate paper waste, reduce submission time, improve tracking and enhance accountability.

Drinking Water and Pollution Control Auditing Process
The role of the auditing process has been to evaluate the financials on all completed drinking water and pollution control projects where State Revolving Fund loans and grants were provided. A review of legal drivers found that auditing all accounts was actually not required. A critical analysis of completed audit data revealed which types of accounts had any significant risk of error. Further, it showed that much of the large backlog could be closed out administratively; reducing the duration of most closeout work by over 90%. The audit process Lean team, which included collaboration with a VTrans audit expert, demonstrated that shifting the audits upstream to real time spot auditing would be a best practice. The new process will eliminate the growing backlog of audits and will instead shift our focus to other, higher value, tools to ensure that we are providing excellent service in this program.

Before the Lean event, 1,510 open accounts existed. Since the March event, 67% of open accounts have been closed, 615 administratively and 391 under the new process.  The remaining open accounts are more difficult to close, though we remain on track to eliminate the backlog by March of 2016. The real time spot check audit process is in draft form with implementation planned by September.  A new risk based project selection process has been created and we plan to select the first project this month.

Wetlands Permitting Program
The job of a wetland ecologist should be focused on the identification of and avoidance of impacts to Vermont's wetlands and the functions and values they provide to the public and the environment.   Because of a lack of standardization, our Wetlands team has been consumed with recreating common correspondence, stuck in impact avoidance and permitting feedback loops, re-entering data in multiple locations, and searching for past lost correspondences.  In effect, the program has been reactionary to threatening and ongoing wetland impacts rather than proactively identifying and engaging in outreach to those who want to develop parcels with wetlands.  Our goal is to shift staff focus to higher value work, such as wetlands training, public education, restoration, wetland health assessment, and landowner technical assistance.

In order to meet our goals, the Program has made significant changes to the Wetlands website and databases. On the website, applicants and the public will now find a Wetlands Guidance Table, an Inquiry Table and an updated Frequently Asked Questions. By the end of August, town-mapped wetlands will be available to the public online. A website-based feeder system has been developed and implemented; ensuring communications get to the correct staffer in a timely manner.  An automated Wetlands Determination email generator has also been developed and implemented, saving an estimated 20 days of program time annually.  Wetlands staff now have smart phones that can be used for field work and can access geographic information remotely to assist field work and collect basic data removing replication of effort. A new database has replaced the old corrupted database, compiling the basic functions with spatial information and files, which has greatly improved staffs' search data entry time.  Some of the capacity freed up from data entry and elsewhere has been reallocated to improved mapping efforts.  As part of their growth strategy, wetlands staff are using a new Outlook tool for recording where current capacity is being spent, allowing measurement of reallocations of time to higher value tasks as capacity is freed up.  By the end of August, we will be demonstrating how to more easily tally this

Outlook information.  Automation of a portion of the permitting process and a public interface for status updates of pending inquiries and permits will be added this fall.

## Grants & Contracts Management

Efficient and effective processing of grants and contracts has been a challenge, given the individual requirements, types and signoffs needed. DEC currently has over 60 staff managing approximately 225 active grants and contracts at any given time. The process currently involves 67 steps and requires 72 hours of hands-on time, 394 days of desk time per grant/contact. The inefficient process has strained the capacity of both our business managers and our technical staff who could be doing higher priority work. Many opportunities were identified by the Lean event related to standardization (including applications, distribution, submittal & data entry), training, evaluation, tracking, and streamlining the overall process including invoice payments and amendments. Consolidating the number of people working on grants and contracts was also a key process improvement step. These solutions would cut the grant and contract processing time to 25 hours and desk time to 117 days, allowing us to shift valuable staff time to other priority work, and would result and ensuring money get into the hands of recipients more quickly.

Since our last monthly report, we have launched the electronic signature software Department-wide, and are piloting the streamlined grants and contracts process with one division, Watershed Management. We will add a second Division to the pilot this month, and are currently considering if Sharepoint is the correct forum for implementation. As a result of the Lean process, we also identified a need for a second Grants Management Specialist and have shifted a position internally to gain the capacity to effectively roll out this new model.

## Stormwater Permitting Business Process

The Stormwater General Permit applies to all new projects with over one acre of impervious surface, and redevelopment and expansion projects of this nature. There are currently 988 active permits, with ~100 new applications received annually. 75% of all applications received are incomplete, manual repetitive database input is required, and automatic tracking is lacking (for permit requirements, inspections, re-certifications, fees, and permit renewal requirements). Over 1,000 bills per year require manual fee calculation and there are several unnecessary steps in the process. Changing the public notice process could also shorten lead time and administrative duplication.

Effective implementation of the Lean results requires the development of a new Stormwater permit database.  The Stormwater Program, working with BTI and ANR IT has developed a plan for testing and deploying the new database, including a "fix matrix" that itemizes all outstanding required corrections to the new database, assigns responsibility, and tracks status.  To date, this collaboration between three programs has identified 68 issues for evaluation, with approximately 20% of these issues having received resolution.  Aside from database work, the program staff have begun working with the Compliance and Enforcement Division to use electronic geographic information for citations.  Also, technical staff have made significant progress on the revision to the Stormwater Treatment Practices Manual that includes criteria for a tiered review where less complex projects can be "fast tracked" for approval versus more complex projects.  The targeted rollout for this next major step is January 2015.

## Drinking Water Source Permitting Program

This program is responsible for permitting new public water supplies, and ensuring that the source is safe and clean for public consumption. This May Lean team developed a proposal for the hydrogeologists to standardize work and create efficiencies. Ideas included developing a permit template, providing additional applicant guidance and checklists, reducing the public notice period, moving the Source Protection Plan approval outside the process to reduce permitting time, and pursuing rule and statute changes. The team also identified opportunities to better utilize information technology to improve the process, such as fully electronic application submittal to omit duplicative data entry, improve accuracy, and minimize returns or corrections of applications.

Since the Lean event, the Program has created an applicant guide for permitting, revised the permit application form and created an applicant checklist. A permit template has been developed, and the staff is being trained to properly enter and track permit conditions using an existing database. Standard operating procedures for the new process have been put in place, and a questionnaire to other states has been developed, and will soon be distributed to other states, to learn more about how they do source protection and apply lessons. These process improvements will allow our

hydrogeologists the capacity to focus on high-value municipal and public outreach related to source protection, to increase data quality, and assist with other Division priorities.

## Next Lean Event

October 20-24 we will hold another full lean week evaluating three new projects.