

LEAN OVERVIEW

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LEAN at DEEP

- ◎ To date, 36 teams have participated in Kaizen events
- ◎ More than 300 staff participants
- ◎ Wide range of projects including permitting and enforcement of air, waste, and water pollution control and land use programs, wildlife and fisheries

What is LEAN?

- ◎ LEAN is a growth strategy
- ◎ A process improvement approach that seeks to eliminate non-value added activities or waste
- ◎ An opportunity for continuous improvement
- ◎ Customer-focused – What do they value?

LEAN Defined

- ◎ An organization-wide process of improvement that provides an opportunity to examine existing processes and eliminate duplicative or unnecessary steps in order to best serve our “customers” (e.g., the environment, permit applicants).

7 Wastes + 1

TOMDWIP+E

- Transportation
- Overproduction
- Motion
- Defects
- Waiting Time
- Inventory
- Processing
- Environmental

OFFICE EXAMPLES

- Poor office layout
- Printing too many products
- Re-entering data
- Incomplete paperwork
- Meetings start late
- Inbox accumulates
- Excessive approvals
- Printing drafts for review

Example- Permitting Wastes

- ECOS/EPA have identified several common permitting process wastes, including:
 - Incomplete applications
 - Backlogs
 - Approval bottlenecks
 - Redundant review or data entry
 - Lack of templates



Material for one pre-lean permit application

5S

- Used before and after a Kaizen event
- Manifested in DEEP's annual clean-out days and authorized record disposal
- 5S
 1. Sort (dispose of what isn't needed)
 2. Set in order (organize what remains)
 3. Shine (clean)
 4. Standardize (maintain guidelines for the first three S – so they become routine)
 5. Sustain (develop a steady habit)

DEEP's 2009 Clean-out Recycled Content

- 8 tons of paper which saved:
 - 32,800 kwh of electricity
 - 72 barrels of oil
 - 480 lbs air pollutants
 - 56,000 gallons of water
- 80 lbs of corrugated cardboard
- 3 gallons of batteries

DEEP Clean-outs have also restocked the ReSupply Center which has saved the agency about \$12,000 to date.

The Value of Lean to DEEP

- Become more efficient
- Provides staff with an opportunity to identify and implement the improvements
- Frees up more time to address new challenges
- Help with the integration of energy and environmental protection



*A Streamlined Future State of the
Structural Dredging and FILL
Application Process*

Lean Successes

- ◎ **Water Enforcement Program-** order issuance time now reduced by more than 200 days
- ◎ **Storage Tank Inspections-** exceeding inspection quotas with no additional staff
- ◎ **Environmental Land Use Control (ELUR) Application Process-** reduced initial application response time from 97 days to 16 days
- ◎ **Office of Long Island Sound Programs (OLISP) Permitting-** reduced permit review time by 70% (566 to 167 days)



The ELUR Lean Team identified strategies to streamline and simplify ELUR applications and approval processes.

LEAN – Kaizen

- ◎ “Kaizen event” or “LEAN event” are two names for the same thing
- ◎ “Kaizen” combines two Japanese words that mean “to take apart” and “to make good”
- ◎ Kaizen events often involve value stream mapping (VSM)
- ◎ VSM develops a visual of the process flow, from start to finish. Helps to identify waste

Team Charter

- ◎ Developed by the Sponsor, Champion and Team Leader
- ◎ Identifies the opportunity for improvement
- ◎ Defines the scope of the project
- ◎ Names team members
- ◎ Identifies project goals and key performance indicators

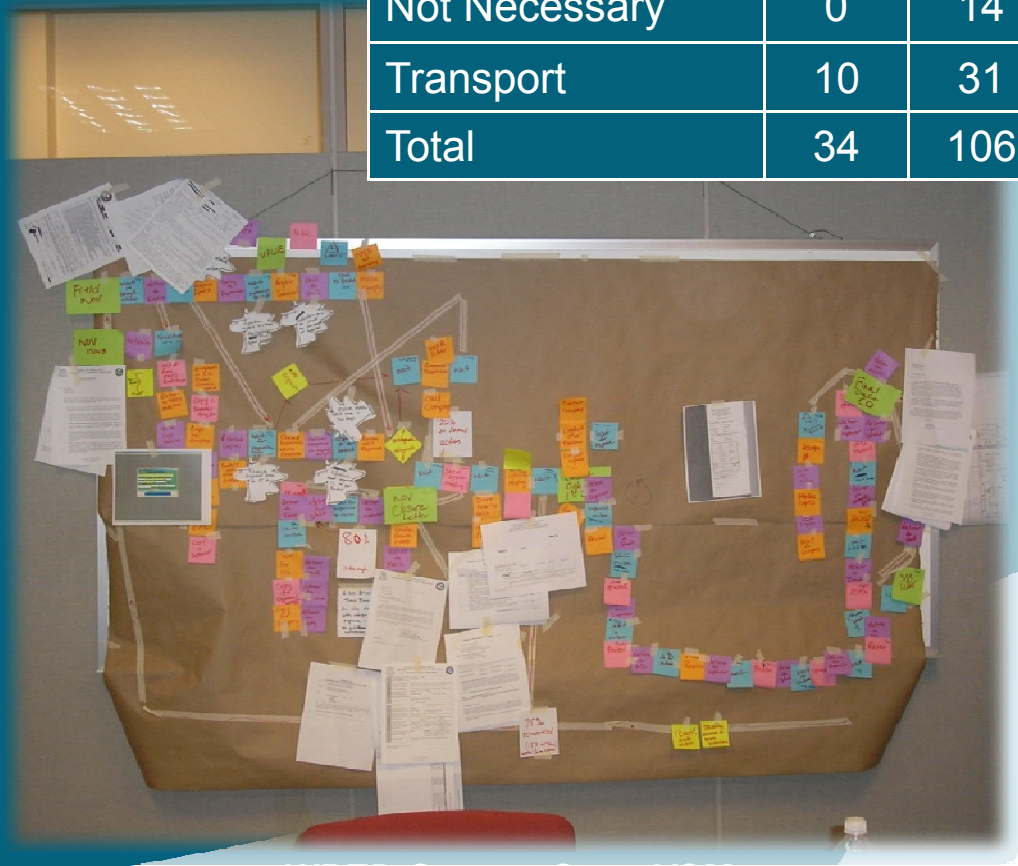
Who is the Customer?

- ◎ The beneficiary or target of the process
- ◎ Important to frame the process analysis in the eyes of the customer
- ◎ Opportunity to invite the customers to Lean event to provide valuable input

Value Stream Mapping (VSM)

- A visual representation of the process involved in delivering a product or service to customers
- Teams map the current state
- Identify waste, especially waiting and transport
- Teams use the current state VSM to build the future state, also visualized using VSM

Type	New	Old
Value added	5	6
Non-Value Added	13	30
Waiting	6	25
Not Necessary	0	14
Transport	10	31
Total	34	106

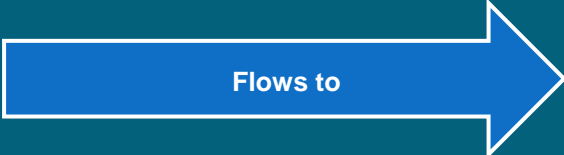


WIPED Current State VSM

Standardized Work

- ◎ Develop standardized work to reduce waste, especially the need for review and oversight
- ◎ Why standard work?
 - Establish routine for work to be performed
 - Develop baseline for future improvements
 - Improve quality performance through repeatability
 - Avoid overproduction
 - Avoid “reinventing the wheel”

Let Value Flow to Customer

- ◎ Value  customer
- ◎ Remove impediments
 - Silos
 - Unnecessary meetings, documents, approvals
 - Error correction loops
 - Poor hand off between tasks, waiting time
 - Firefighting
 - Improve balancing of priorities

Visuals

- Provide constant gentle pressure, quickly indicate progress and organize project
- implementation tasks



WPED Enforcement Case Tracking

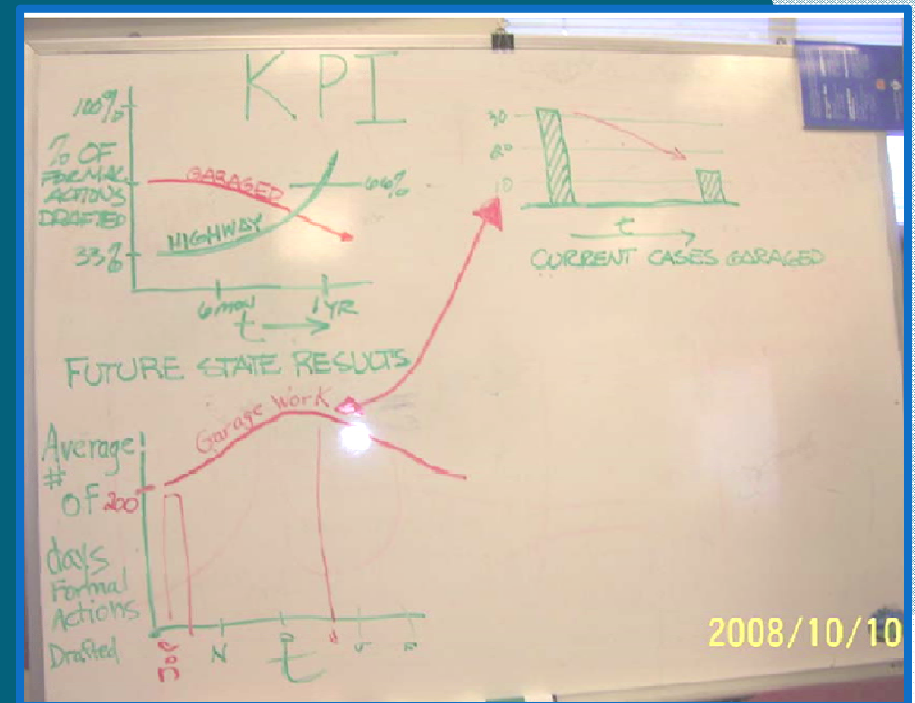


Lean Team Quarterly Report Posters



Key Performance Indicators (KPIs)

- A way to measure progress
 - Know whether efforts are achieving goals
 - Be aware of whether adjustments are needed (PDCA)
- Example- ELUR Lean Team KPIs:
 - % of applications deemed “complete” on 1st submittal
 - # days to determination of administrative completeness



The Solid Waste Enforcement Team's KPIs include percent of formal actions complete on first submittal and average number of days it takes to determine administrative completeness of formal action.

Project Implementation Phase

- Typically lasts 12 months
- Teams typically hold weekly meetings for the first 2 months and monthly meetings after that
- Teams can be divided into sub-groups, based on project implementation tasks

Plan Do Check Act Project Plan PDCA			LEAN TEAM PLAN (Draft Plan to be Presented to)										EXPECTED RESULTS
TASK/ACTIVITY	TASK OWNER(S)	PARTICIPANTS	October	November	December	January	February	March	April	May	June	July	
Create Web Page - Post Results- Status	Carol	Carol, Jeff & Nalomi	█	█	█	█	█	█					
Research other states	Jeff	Sarah, Bob		█	█	█	█	█	█	█	█	█	
Reg Changes - **** \$\$\$ FEES	Bob	Bob/Jeff					█	█	█	█	█	█	█
Create New Guidance Documents	Mike / Tara	Staff			█	█	█	█	█	█	█	█	█
Update Record Retention Guidance	Doug H					█	█	█	█	█	█	█	█
Pollog & Procedure Manual For Division	Gary	Staff	█	█	█	█	█	█	█	█	█	█	█
Develop Training For Staff	Bob / Jeff					█	█	█	█	█	█	█	█
Pre-Application Meeting Set up hours	Jeff / Bob			█	█	█	█	█	█	█	█	█	█
IT - Hookup to Plotters & Purchase? ADOBE Professional, Other options	Denise		█	█	█	█	█	█	█	█	█	█	█
Create a shared workspace	Jeff / Denise	Building Management				█	█	█	█	█	█	█	█

Color Code Key █ ON Target █ Struggling █ Action █ Future

Comments from the LEAN Team

- ◎ Critical in the process is having management support in accepting recommendations for change and being fully engaged in implementation.
- ◎ Important to keep all Division staff informed as to the project's goals and implementation activities. Buy-in from staff critical to make the process work.
- ◎ As the project implementation moves forward, need to be mindful of including others within the programs to integrate efforts moving forward.
- ◎ Acknowledge the work of the Team and Team Leaders.

Building Capacity for LEAN

- ◎ Over 50 employees have received advanced LEAN training
- ◎ More than 300 employees have participated in Lean events.
- ◎ 15 staff shadowed our Sensei, Fred Shamburg, during last week's Lean event
- ◎ Lean Coordinators/contacts identified for each Bureau
- ◎ Facilitator/Coordinator contacts meet regularly on LEAN implementation

Future LEAN Opportunities

- ◎ LEAN events scheduled for January and May 2012
- ◎ Submit LEAN ideas through your manager or supervisor or through web form provided on intranet
- ◎ E-mail Nicole Lugli, Agency's LEAN Coordinator, if you want to participate in a future LEAN team

Water Quality Enforcement Program

Water Permitting and Enforcement Division

- Eliminate Wastes and/or non-value added steps found in administrative enforcement activities
- Identify ways to improve administrative enforcement processes
- Charter Goals
 - Reduce NOV closure time by 30%
 - Reduce enforcement elevation decision time by 30%
 - Reduce the time for drafting formal enforcement document by 30%

Current State as of June 2008

- Division has 3 enforcement groups, each with a unique way of doing business
- Enforcement Response Policy (ERP) goal of 180 days to send draft consent orders is not being met.
- Notice of Violation (NOV)
 - Issued in 2007 – 170. Of these, 62 not closed.
 - Total Backlog (last 5 years) = 583
- Consent Orders (CO)
 - Completed in 2007 = 14
 - Total Backlog of draft COs = 30
 - Last 5 years = 24
 - Greater than 5 years = 6

Future State

- Standardize Work/Workflow
- Use of Visuals for File Management and Workflow Management
- New Approach to NOVs and COs

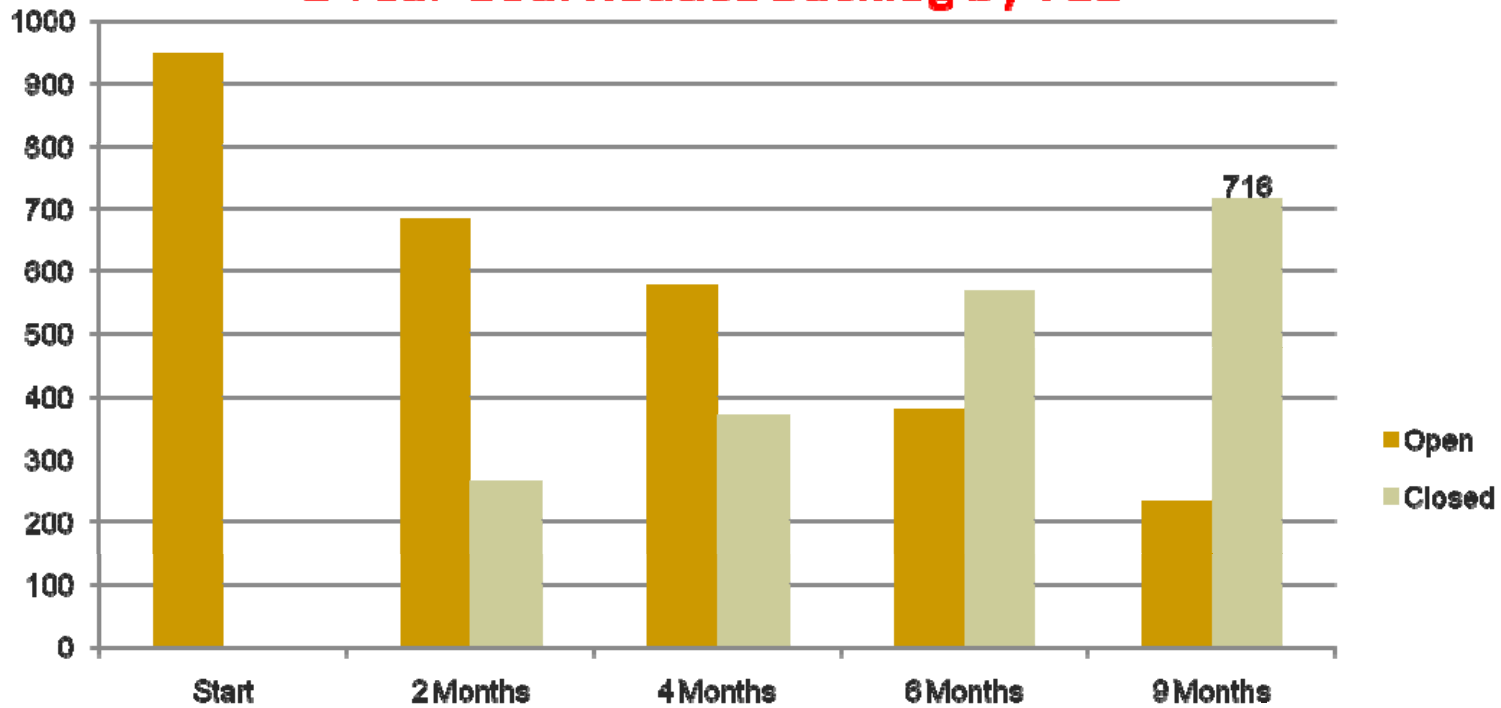


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Success

WPED Open/Closed Backlog NOV's

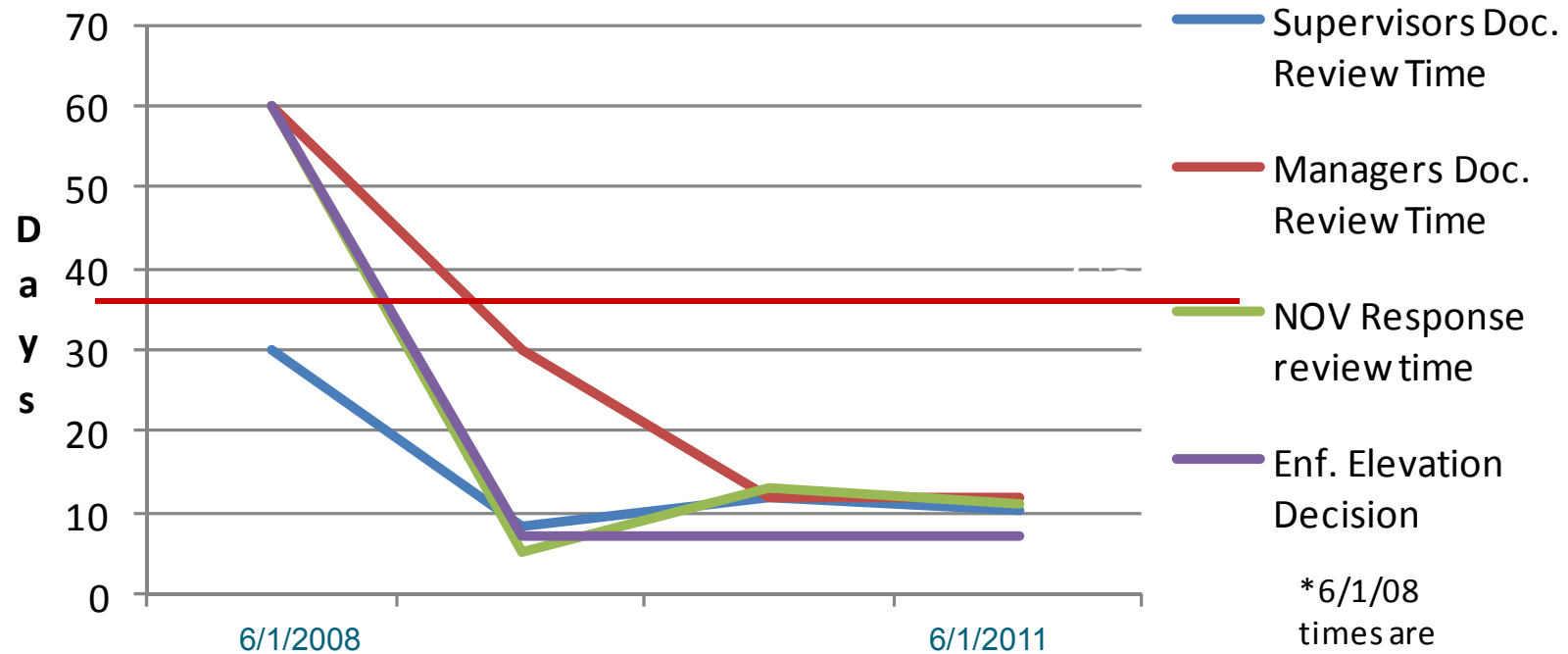
1 Year Goal Reduce Backlog by 711



Success

- Reduced decision time by 30% to 42 days

WPED Review & Decision Times*

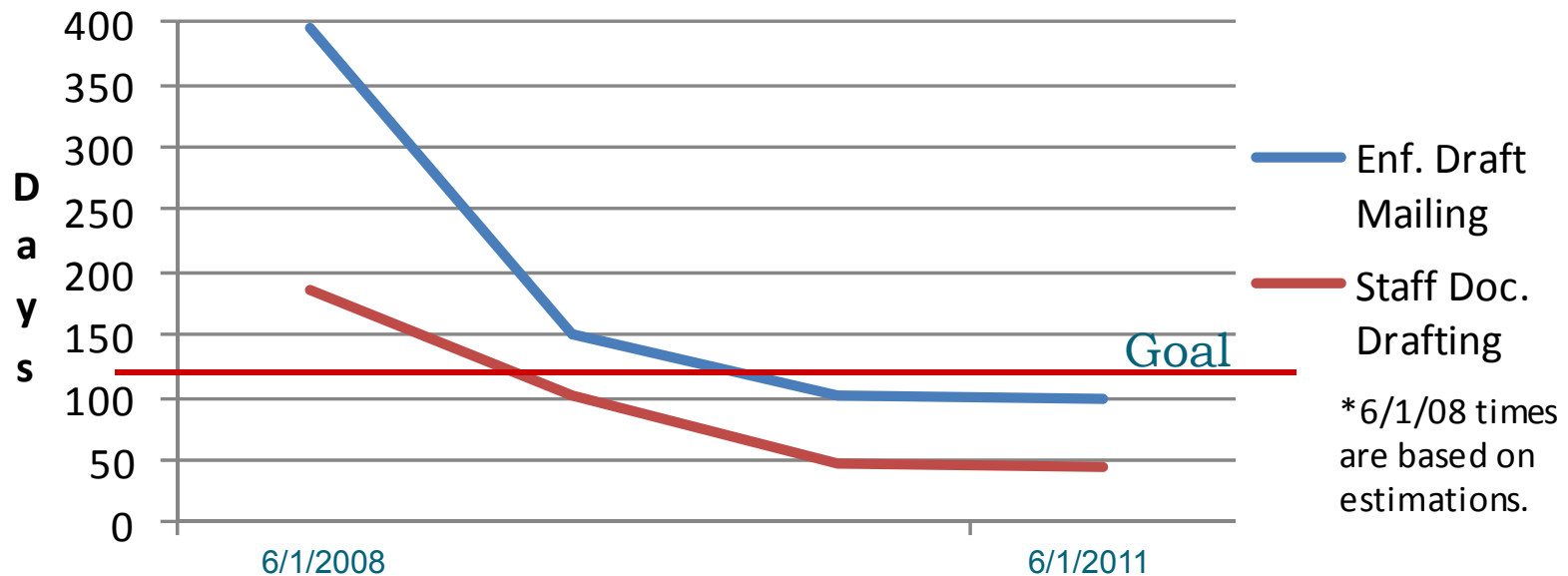


*6/1/08 times are based on estimations.

Success

Goal Reduce Drafting Time by 30%

Enf. Document Drafting/Completion*



Dam Safety Program



The Regulatory Universe

- ◎ 3,000 dams under regulation of DEEP's Dam Safety Program
- ◎ Of these, approximately 700 are high or significant hazard dams
- ◎ Dam Safety Program includes permitting, inspections, and enforcement and includes 3 engineers and 2 inspectors
- ◎ By regulation Dam Safety is required to inspect approximately 400 dams per year
 - Currently not meeting this requirement

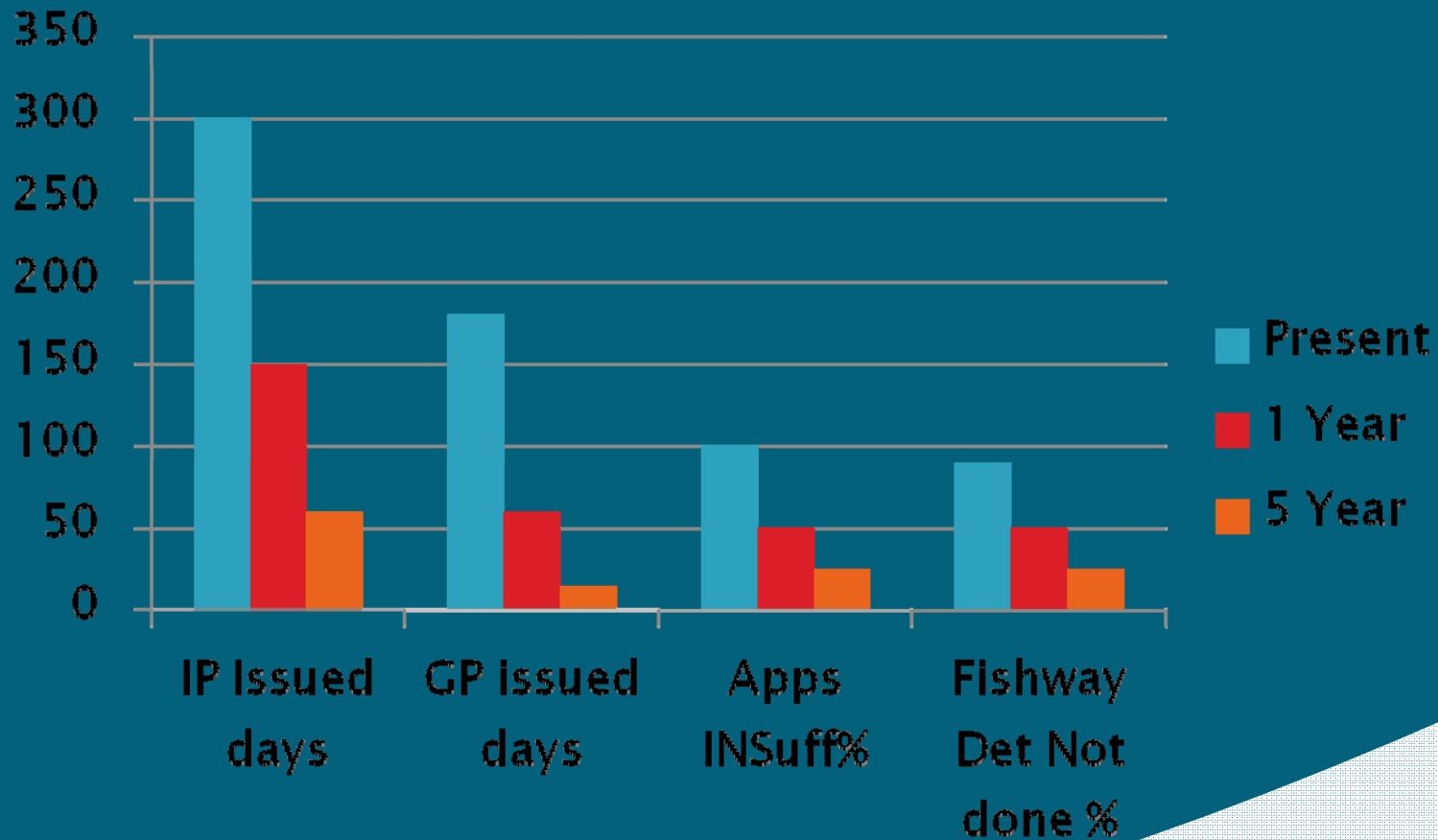
What “Good” Looks Like

- ◎ 75% of Dam Safety Permit Applications received with fish passage determination
- ◎ Pre-application meetings for all dam safety permit applications
- ◎ Meet new timeframe goals
- ◎ Increase staff capacity to perform additional inspections including cross-training divisional staff

What “Great” Looks Like

- ◎ Electronic permit application submittal and processing
- ◎ Automated sufficiency reviews
- ◎ Owner responsible dam inspections
- ◎ Elimination of public notice period for in-kind dam repairs

Key Performance Indicators (Metrics)



Other Key Performance Indicators

Number of dams repaired

Certificate of Approvals issued vs repair permits issued

Number of dam Inspections generating increased number of permits

Questions?

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