

Regional ECONomic System (RECONS) Overview

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**US Army Corps
of Engineers®**



*Gulf Intracoastal Waterway West Closure Complex
Photo by Team New Orleans, USACE*

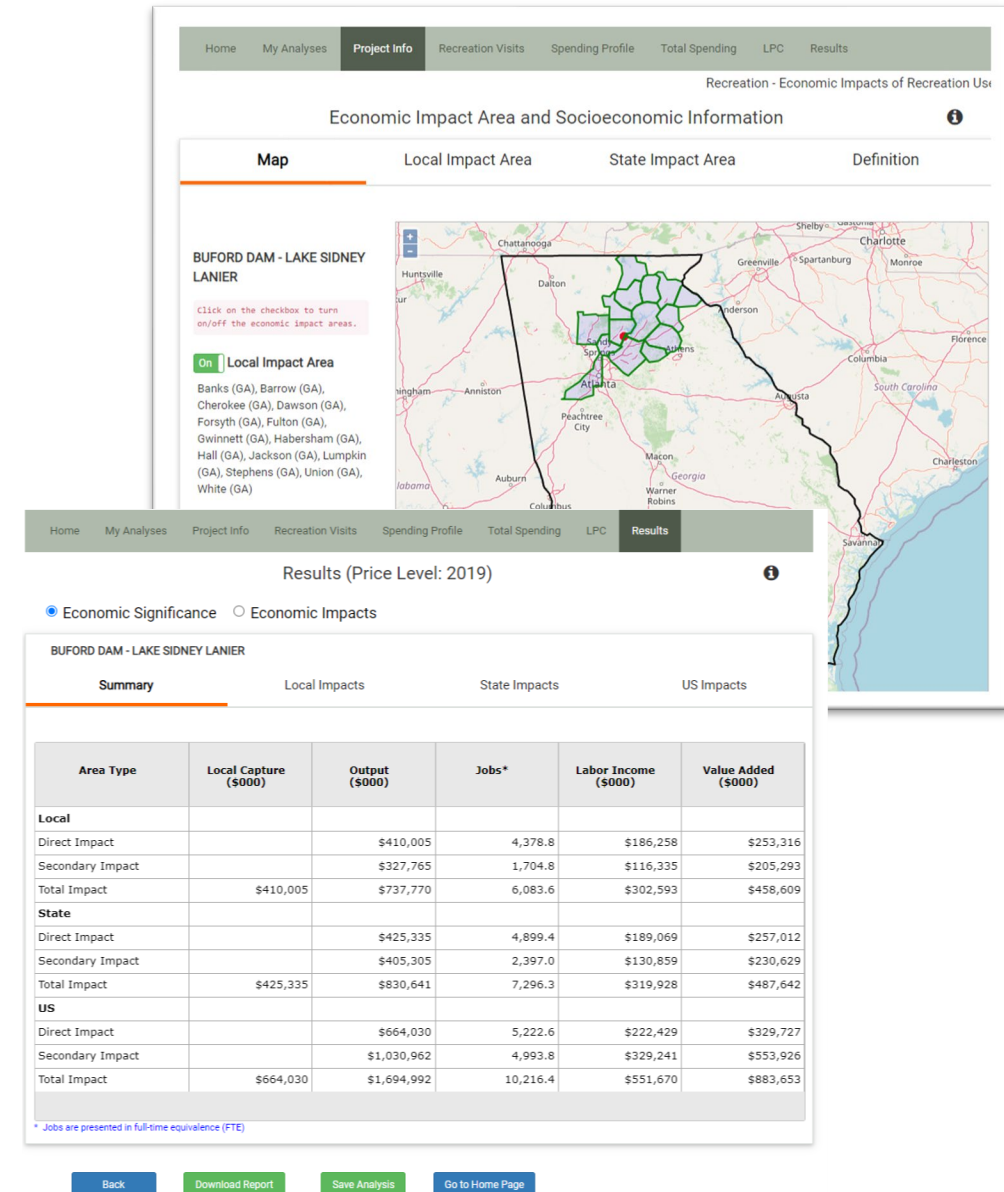


REGIONAL ECONOMIC SYSTEM (RECONS)

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- Initially developed to meet ARRA reporting requirement, has evolved into a comprehensive RED model for all USACE CW programs.
- Input-Output modeling framework.
- Reports economic output, jobs, income, and value added
- Three geographic impact areas: local, state, and national.
- Current version: RECONS 2.0, certified Sept 2019. The only agency wide certified RED model.





LEARNING OBJECTIVES & PRESENTATION OUTLINE



Learning Objectives - Obtain a Basic Understanding of:

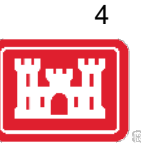
- Differences between NED & RED Accounts
- Why it is important to know how to conduct RED evaluations
- RECONS functionality

Presentation Outline

- Four Accounts (NED, RED, EQ, OSE)
- ASA(CW) Directive – Comprehensive Documentation of Project Benefits
- RECONS Overview
- Resources
- **Live Demo!**
- Backup Slides for Reference



APRIL 2020 ASA(CW) DIRECTIVE: COMPREHENSIVE DOCUMENTATION OF BENEFITS IN FEASIBILITY STUDIES



WHERE WE WERE (*Excerpt 1, Para. 3*)

Principles & Guidelines (1986)

NED: Mandatory

RED & OSE: Discretionary

3. The P&G established four accounts to facilitate and display the effects of alternatives plans in the formulation of water resource projects while recognizing the importance of maximizing potential benefits relative to project costs. The Principles and Guidelines and Planning Guidance Notebook (Reference B) indicate that of the four accounts, the National Economic Development (NED) and Environmental Quality (EQ) accounts are mandatory for all feasibility studies while the Regional Economic Development (RED) and Other Social Effects (OSE) accounts are considered discretionary. The EQ account will be addressed through compliance with the National Environmental Policy Act through the procedures outlined in ER 200-2-2.

WHERE WE'RE HEADED (*Excerpt 2, Para. 5*)

ASA(CW) Directive (03 APR 2020)

NED, RED & OSE:
Mandatory

5. In order to fully assess the outputs of resource projects, I hereby direct you to identify, analyze and maximize all benefits in the NED, RED, and OSE. The level of detail of the analysis, however, may be adjusted based on the magnitude of the benefit, value to decision-making, availability of data, and tools or procedures for quantification or monetization of benefits. This requires deliberate focus during the study scoping period, which shall include discussions with project sponsors, the public and stakeholders, such that informed study scoping decisions can be made and a commensurate evaluation identifying maximum benefits can be accomplished



FOUR ACCOUNTS (PRINCIPLES & GUIDELINES, 1986)



P&G Account	Description
National Economic Development (NED)	Contributions to NED are increases in the net value of the national output of goods and services, expressed in monetary units.
Regional Economic Development (RED)	Changes in the distribution of regional economic activity that result from each alternative plan.
Environmental Quality (EQ)	Changes in the ecological, aesthetic, and cultural attributes of natural and cultural resources.
Other Social Effects (OSE)	Effects from perspectives that are relevant to the planning process, but are not reflected in the other three accounts.



Economic Efficiency

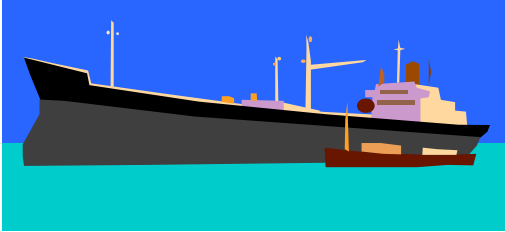

Net willingness to pay:
What you would be willing to pay over and above actual expenditures/costs (consumer/producer surplus).



Economic Impacts

Economic activity (jobs, income) in a region

EXAMPLES OF NED & RED BENEFITS

Benefit Categories	Channel Maintenance: Commercial cargo navigation 	Recreation Site Improvement: A group of campers visit a USACE recreation site 
NED Benefits	Money saved in transportation costs	The amount of money campers would be willing to pay beyond what they actually have to
RED Benefits	Jobs and income generated/supported in this region from water transportation infrastructure and associated activities	Jobs and income generated/supported in this region from visitor spending in recreation and tourism related activities



RECONS APPLICATIONS

Project Justification Sheets & Congressional Support Documents

- Fact Sheets, StrongPoints, G-Wiz

Feasibility Studies / NEPA Compliance (All Business Lines)

- Navigation: Soo Locks
- Environment: GLMRIS-BR
- Recreation: Missouri River

Benefits of Multi-Agency Programs

- Great Lakes Restoration Initiative

Enterprise-Level Reporting & Decision Making

- Value of CW Program to Nation
- Stimulus packages (e.g., ARRA, COVID-19)
- Chief Reports

Project Example →

Construction (near-term) →

OMRR&R (long-term) →

Industry Uses of Corps Infrastructure (long-term) →

Key Takeaways: Regional Economic Impact Analysis for Upper Ohio Navigation Project

Summary of Effort:

The U.S. Army Corps of Engineers (USACE) conducted an analysis to estimate the regional economic impacts of construction of the Upper Ohio Navigation Project, and the continued operation and maintenance and transportation of commodities through Emsworth, Dashields and Montgomery Locks and Dams (EDM). Inputs for this evaluation were drawn from the Upper Ohio Navigation Project Economic Reevaluation Report (February 2020).

Project Overview

1. The Upper Ohio Navigation Project entails replacing the auxiliary 56'X 360' river chambers at EDM with new 110'X 600' lock chambers to provide for long-term, safe, reliable, efficient and sustainable navigation on the Upper Ohio River.
2. The project was authorized by the Water Infrastructure Improvements for the Nation Act of 2016.

Fundamentals of USACE Regional Economic Impact Analyses

1. The Regional Economic System is a USACE-certified regional economic model designed to provide accurate and defensible estimates of economic impacts of USACE projects, programs and infrastructure.
2. Regional economic impacts are measured as economic output (sales), jobs, income and value added. Estimates are provided for three levels of geography (impact areas): local, state and national.
3. All dollar values presented in FY20 prices.

Project Construction

1. Project construction is estimated to occur over a 6-year period at a total cost of \$1.6B. Economic impacts over the construction period are directly proportional to project expenditures incurred each year.
2. In the Pittsburgh Metropolitan Statistical Area, project construction expenditures are estimated to support a total of 21,100 full-time equivalent jobs, \$1.2B in labor income, \$1.7B in value added and \$2.5B in sales.

3. Nationally, project construction expenditures are estimated to support a total of 28,800 full-time equivalent jobs, \$1.7B in labor income, \$2.4B in value added and \$4.0B in sales.

EDM Operation, Maintenance, Repair, Rehabilitation & Replacement (OMRR&R)

1. On average, annual OMRR&R of EDM is estimated to be \$6.8M for years 2020-76.
2. In the Pittsburgh Metropolitan Statistical Area, EDM OMRR&R expenditures are estimated to support 60 full-time equivalent jobs, \$4M in labor income, \$6M in value added and \$8M in sales annually.
3. Nationally, EDM OMRR&R expenditures are estimated to support about 100 full-time equivalent jobs, \$7M in labor income, \$10M in the value added and \$16M in sales annually.

Transportation & Support Activities for Commodities Transiting EDM

1. On average, annual tonnage transiting EDM is expected to be 16.5 million (years 2020-76).
2. EDM is part of a larger transportation network. The locks facilitate transportation of commodities, industry interactions (e.g., locally-available truck and rail, warehousing) and associated monetary transactions.
3. In the counties bordering the Ohio River, transportation and support activities for commodities transiting EDM is estimated to support 3,800 full-time equivalent jobs, \$260M in labor income, \$395M in value added, and \$813M in sales annually.
4. Nationally, transportation and support activities for commodities transiting EDM is estimated to support 5,300 full-time equivalent jobs, \$36M in labor income, \$572M in the value added and \$1.2B in sales annually.





USING RECONS TO ADVANCE CIVIL WORKS MISSIONS



1.Accurate & Defensible estimates of regional economic impacts.

2.Consistent. Method/reporting consistent across districts and divisions

3.USACE-certified.



Transparent. Resources available to support users.

4.User-friendly. Interface requires only a basic understanding of regional economic analyses



Cost-Effective!

Results generated at low cost to projects.

5.Supports NEPA. Provides information about RED, one of the four accounts in P&G.




Helps tell the whole story. Shows what project could mean for a local economy.

6.Useful. Provides key information (jobs, revenues) that is useful to decision-makers, local-sponsors, & stakeholders.



Easy to understand. Communicates importance of Corps projects to people.
Matters to communities.

- 
- ✓ Input from Corps' SMEs & Centers of Expertise.
 - ✓ Applied consistently across academia, private sector, & public sector..



RECONS MODULES



Civil Works Spending Modules

- Estimate regional economic activity supported by project expenditures within the eight CW business lines.
- Project expenditures (studies, construction and O&M activities)

USACE Programs & Infrastructure Modules

- Estimate long-term regional economic activity supported by USACE programs & infrastructure.
- Programs & infrastructure provide a platform for economic activity to occur.
- FUSRAP sites (agricult., waste disposal)
- Navigation infrastructure (transp. + port activities)
- Recreation projects (visitor spending)

Results

USACE spending, programs & infrastructure support economic activity:

(economic output · jobs · earnings · value added)

Provided for three levels of geography:

(local · state · national impact areas)



RECONS DEMO!!



SUMMARY RESULTS



Home My Analyses Project Info Recreation Visits Spending Profile Total Spending LPC Results

Results (Price Level: 2019)



BUFORD DAM - LAKE SIDNEY LANIER

Summary

Local Impacts

State Impacts

US Impacts

Area Type	Local Capture (\$000)	Output (\$000)	Jobs*	Labor Income (\$000)	Value Added (\$000)
Local					
Direct Impact		\$410,005	4,378.8	\$186,258	\$253,316
Secondary Impact		\$327,765	1,704.8	\$116,335	\$205,293
Total Impact	\$410,005	\$737,770	6,083.6	\$302,593	\$458,609
State					
Direct Impact		\$425,335	4,899.4	\$189,069	\$257,012
Secondary Impact		\$405,305	2,397.0	\$130,859	\$230,629
Total Impact	\$425,335	\$830,641	7,296.3	\$319,928	\$487,642
US					
Direct Impact		\$664,030	5,222.6	\$222,429	\$329,727
Secondary Impact		\$1,030,962	4,993.8	\$329,241	\$553,926
Total Impact	\$664,030	\$1,694,992	10,216.4	\$551,670	\$883,653

* Jobs are presented in full-time equivalence (FTE)

- The overall summary provides a snapshot of the local, state, and national economic impacts.
- Users can save their analysis with a title or download a report.
- Reports can be downloaded (Excel) that provide documentation of all inputs and results from the evaluation

Back

Download Report

Save Analysis

Go to Home Page



RESULTS ALSO AVAILABLE BY INDUSTRY SECTORS

BUFORD DAM - LAKE SIDNEY LANIER

Summary

Local Impacts

State Impacts

US Impacts

IMPLAN Code	Industry	Output (\$000)	Jobs*	Labor Income (\$000)	Value Added (\$000)
	Direct				
105	All other food manufacturing	\$10,253	28.1	\$1,466	\$1,776
156	Petroleum refineries	\$620	0.1	\$62	\$69
385	Sporting and athletic goods manufacturing	\$518	2.1	\$126	\$184
394	All other miscellaneous manufacturing	\$3,057	14.9	\$1,363	\$1,448
395	Wholesale trade	\$98,376	327.2	\$35,927	\$66,697
400	Retail - Food and beverage stores	\$40,481	502.1	\$17,974	\$27,584
402	Retail - Gasoline stores	\$55,467	664.0	\$33,941	\$37,586
404	Retail - Sporting goods, hobby, musical instrument and book stores	\$9,249	132.2	\$4,148	\$6,173
406	Retail - Miscellaneous store retailers	\$14,780	246.6	\$9,870	\$10,654
411	Truck transportation	\$4,952	27.1	\$1,733	\$2,083
412	Transit and ground passenger transportation	\$47,462	596.9	\$20,939	\$29,044
496	Other amusement and recreation industries	\$34,500	409.4	\$13,320	\$20,874
499	Hotels and motels, including casino hotels	\$119	1.0	\$39	\$77
500	Other accommodations	\$2,749	53.4	\$1,535	\$1,677
501	Full-service restaurants	\$84,784	1,350.3	\$42,258	\$45,679
504	Automotive repair and maintenance, except car washes	\$2,638	23.3	\$1,556	\$1,711
	Direct Impact	\$410,005	4,378.8	\$186,258	\$253,316
	Secondary Impact	\$327,765	1,704.8	\$116,335	\$205,293
	Total Impact	\$737,770	6,083.6	\$302,593	\$458,609

Tabs along the top provide more detail on Local, State, and National impacts.

All directly-affected industries and their associated direct effects (*economic output, employment, labor income, and value-added*) are displayed.



EXCEL-BASED REPORT CAN BE DOWNLOADED



Price Level: 2020

Table 6 - Overall Summary

Area	Local Capture (\$000)	Output (\$000)	Jobs*	Labor Income (\$000)	Value Added (\$000)
Local					
Direct Impact		\$48,138	284.4	\$26,363	\$29,899
Secondary Impact		\$30,470	188.8	\$10,597	\$18,412
Total Impact	\$48,138	\$78,607	473.1	\$36,960	\$48,310
State					
Direct Impact		\$49,841	378.5	\$27,581	\$31,412
Secondary Impact		\$36,412	229.1	\$11,815	\$20,517
Total Impact	\$49,841	\$86,253	607.5	\$39,397	\$51,929
US					
Direct Impact		\$50,070	381.0	\$28,045	\$31,866
Secondary Impact		\$83,267	418.1	\$25,377	\$43,205
Total Impact	\$50,070	\$133,337	799.1	\$53,422	\$75,072
* Jobs are presented in full-time equivalence (FTE)					

Table 7 - Local Impacts

	Output (\$000)	Jobs*	Labor Income (\$000)	Value Added (\$000)
Direct Impacts				
58 Construction of other new nonresidential structures	\$43,060	233.5	\$22,734	\$25,381
455 Environmental and other technical consulting services	\$196	1.6	\$152	\$137
462 Office administrative services	\$1,502	27.1	\$980	\$1,001
535 Employment and payroll of federal govt, non-military	\$3,380	22.2	\$2,497	\$3,380
Direct Impact	\$48,138	284.4	\$26,363	\$29,899
Secondary Impact	\$30,470	188.8	\$10,597	\$18,412
Total Impact	\$78,607	473.1	\$36,960	\$48,310
* Jobs are presented in full-time equivalence (FTE)				



DOWNLOADED REPORT PROVIDES SUMMARY TEXT FOR REPORTS



Executive Summary

The U.S. Army Corps of Engineers (USACE) Institute for Water Resources, Louis Berger, and Michigan State University have developed a regional economic impact modeling tool, RECONS (Regional ECONomic System), that provides estimates of jobs and other economic measures such as labor income, value added, and sales that are supported by USACE programs, projects, and activities. This modeling tool automates calculations and generates estimates of jobs, labor income, value added, and sales through the use of IMPLAN®'s multipliers and ratios, customized impact areas for USACE project locations, and customized spending profiles for USACE projects, business lines, and work activities. RECONS allows the USACE to evaluate the regional economic impact and contribution associated with USACE expenditures, activities, and infrastructure.

The expenditures associated with All Work Activities, with Ability to Customize Impact Area and Work Activity at Jefferson (AL) are estimated to be \$50,070,000. Of this total expenditure, \$48,138,000 will be captured within the local impact area. The remainder of the expenditures will be captured within the state impact area and the nation. These direct expenditures generate additional economic activity, often called secondary or multiplier effects. The direct and secondary impacts are measured in output, jobs, labor income, and gross regional product (value added) as summarized in the following tables. The regional economic effects are shown for the local, state, and national impact areas. In summary, the expenditures \$50,070,000 support a total of 473.1 full-time equivalent jobs, \$36,960,000 in labor income, \$48,310,000 in the gross regional product, and \$78,607,000 in economic output in the local impact area. More broadly, these expenditures support 799.1 full-time equivalent jobs, \$53,422,000 in labor income, \$75,072,000 in the gross regional product, and \$133,337,000 in economic output in the nation.



HELPFUL RESOURCES!



Web Links

RECONS Model:

<https://www.corpsrecons.us/>

IWR RECONS Website:

<https://www.iwr.usace.army.mil/Missions/Economics/Regional-Economic-System-RECONS/>

- RECONS Overview
- User Guide
- Model Certification Memorandum
- Methods Manual

RECONS Support

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QUESTIONS?



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