



Dam Safety Enforcement Update

Briefing for the Board of Land and Natural Resources

March 25, 2021

DLNR Engineering Division
Flood Control and Dam Safety Section

Purpose of Briefing

- Dam Safety Program and Board Authority
- Enforcement Plan



Hawaii Dam and Reservoir Safety Program

...to protect the health, safety, and welfare of the citizens of the State by reducing the risk of failure of dams and reservoirs

Background and Recap of 2020 Board Briefing

131 Regulated Dams

KA-0016 MIMINO RESERVOIR
KA-0009 KAAWANUI RESERVOIR

52 Dams

OA-0129 WAIMANALO 60 MG RESERVOIR

13 Dams

MO-0041 KUALAPUU RESERVOIR

56 Dams

MA-0094 KAPALAALEA RESERVOIR

HA-0147 PUNAWAI RESERVOIR

Kailua Kona Kalaea Hilo
Houlualoa Hawaii

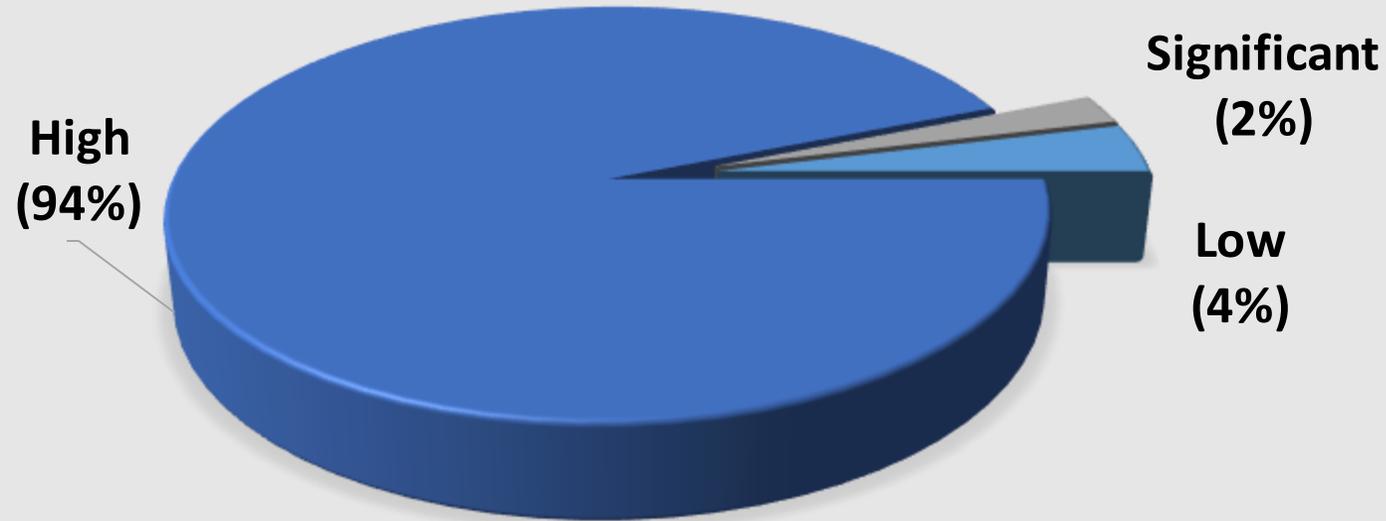
25 Dams Removed

10 Dams

HA-0049 KEAIWA RESERVOIR



Hazard Potential Classification



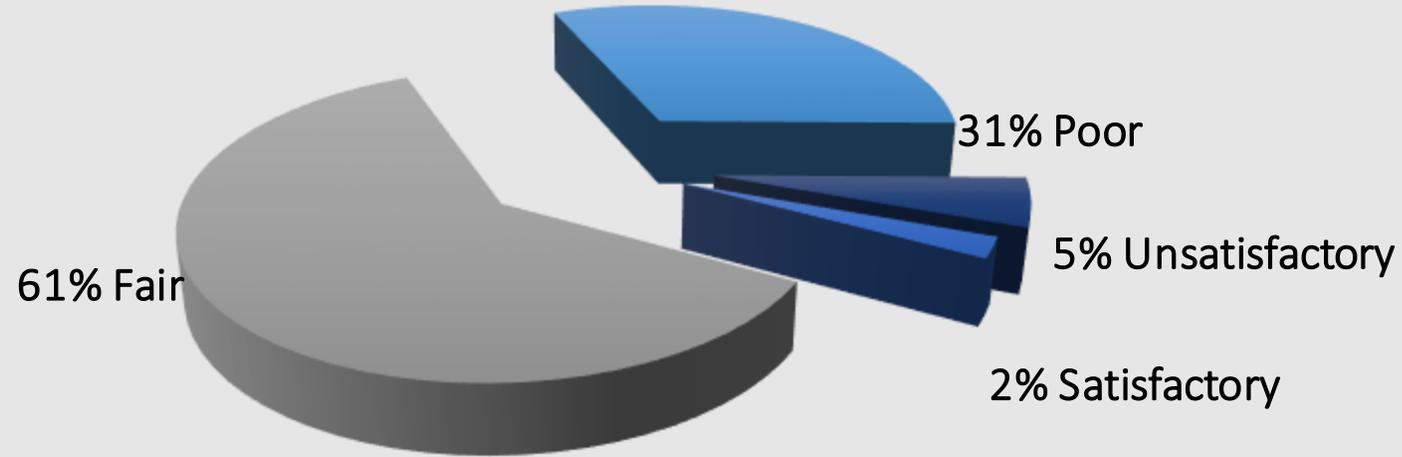
HIGH HAZARD - means a dam or reservoir failure will result in probable loss of human life.

SIGNIFICANT HAZARD - means a dam or reservoir failure will result in no probable loss of human life but can cause major economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns.

LOW HAZARD - means a dam or reservoir failure will result in no probable loss of human life and low economic loss or environmental loss, or both. Economic losses are principally limited to the owner's property.



Overall Condition Assessment



SATISFACTORY - No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions (static, hydrologic, seismic) in accordance with the applicable regulatory criteria or tolerable risk guidelines.

FAIR - No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.

POOR - A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. POOR may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

UNSATISFACTORY - A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Overall Condition Assessment

KA-0016 MIMINO RESERVOIR
KA-0009 KAAWANUI RESERVOIR

WA-0129 WAIMANALO 60 MG RESERVOIR

MO-0041 KUALAPUU RESERVOIR

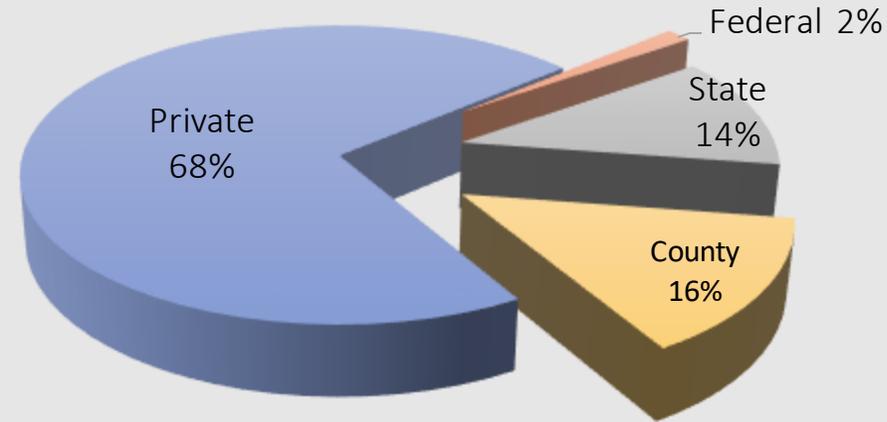
MA-0094 KAPALAAALAEA RESERVOIR

HA-0147 PUNAWAI RESERVOIR
Kailua Kona Hilo
Kalaoa Hokualoa Hawaii
HA-0049 KEAIWA RESERVOIR

Overall Condition Assessment	Kauai County	C&C of Honolulu	Maui County	Hawaii County	Statewide
Satisfactory	2	1	0	0	3
Fair	27	5	44	4	80
Poor	23	5	8	5	41
Unsatisfactory	0	2	4	1	7
Total	50	13	56	10	131



Gov't Ownership of Regulated Dams



Hazard Potential Classification	Statewide			Kauai County			C&C of Honolulu			Maui County			Hawaii County		
	Total Dams	State Owned	County Owned	Total Dams	State Owned	County Owned	Total Dams	State Owned	County Owned	Total Dams	State Owned	County Owned	Total Dams	State Owned	County Owned
High	122	13	17	48	8	1	12	1	4	53	1	9	9	3	3
Significant	3	0	1	0	0	0	0	0	0	2	0	1	1	0	0
Low	5	3	1	4	3	0	0	0	0	1	0	1	0	0	0
Total	131	16	19	52	11	1	13	1	4	56	1	11	10	3	3

Notes:

Hazard Classifications are based on the Pacific Disaster Center (PDC) Inundation Studies Initiated in 2006

Kauai County has two dams owned by both the State (DLNR) and the Kauai County
(these dams are accounted for in both the State and the County totals)

Honolulu has a dam with an assumed High Hazard Potential Classification dam, which has not been studied

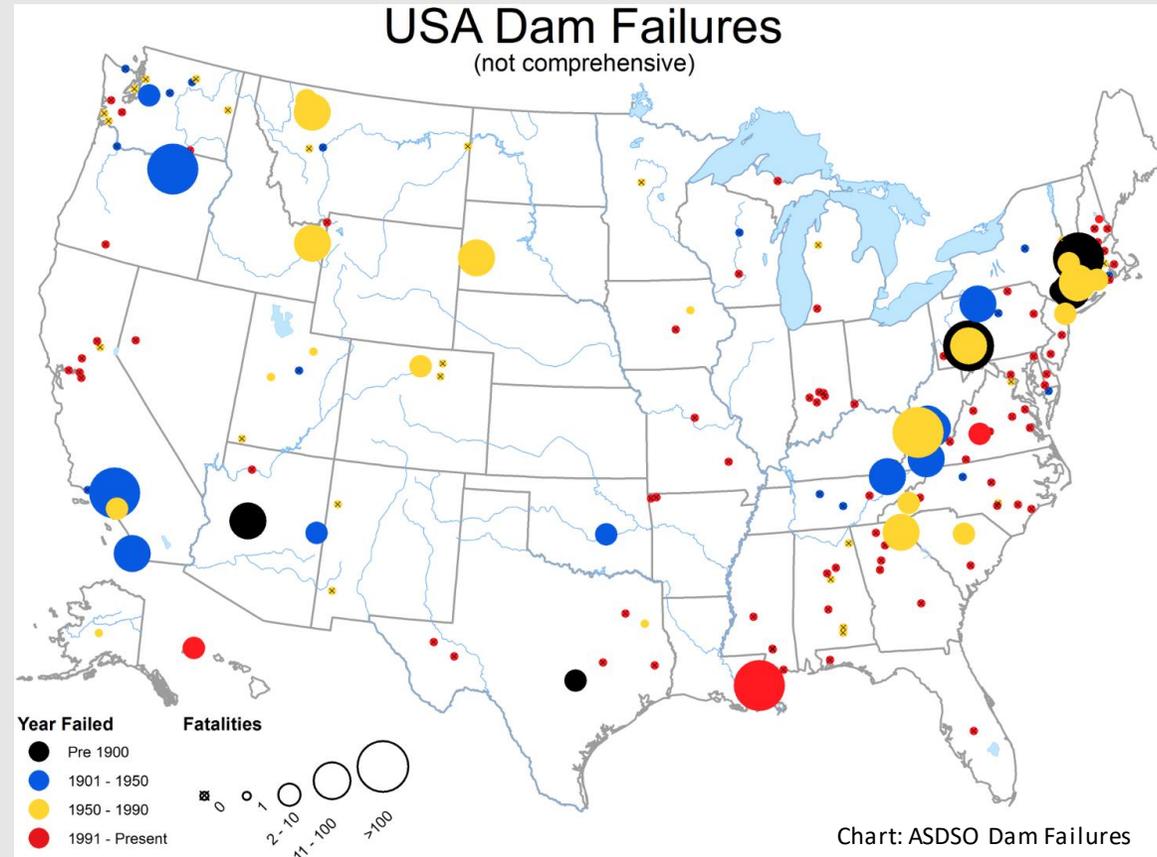
Honolulu has two dams owned by the Federal Government (US Army)



Kaloko Dam Failure



Photo credit: Star Bulletin



March 14, 2006
Kaloko Dam Break, Kauai
7 lives lost





December 11, 2008
Helemano 11 Overtopping,
Oahu



March 14, 2006
Morita Reservoir Overtopping,
Kauai



Kahena Dam Breach, Hawaii



1994
Horner Reservoir Breach, Maui



March 8, 2021
Kaupakalua Reservoir Overtopping, Maui

Incidents

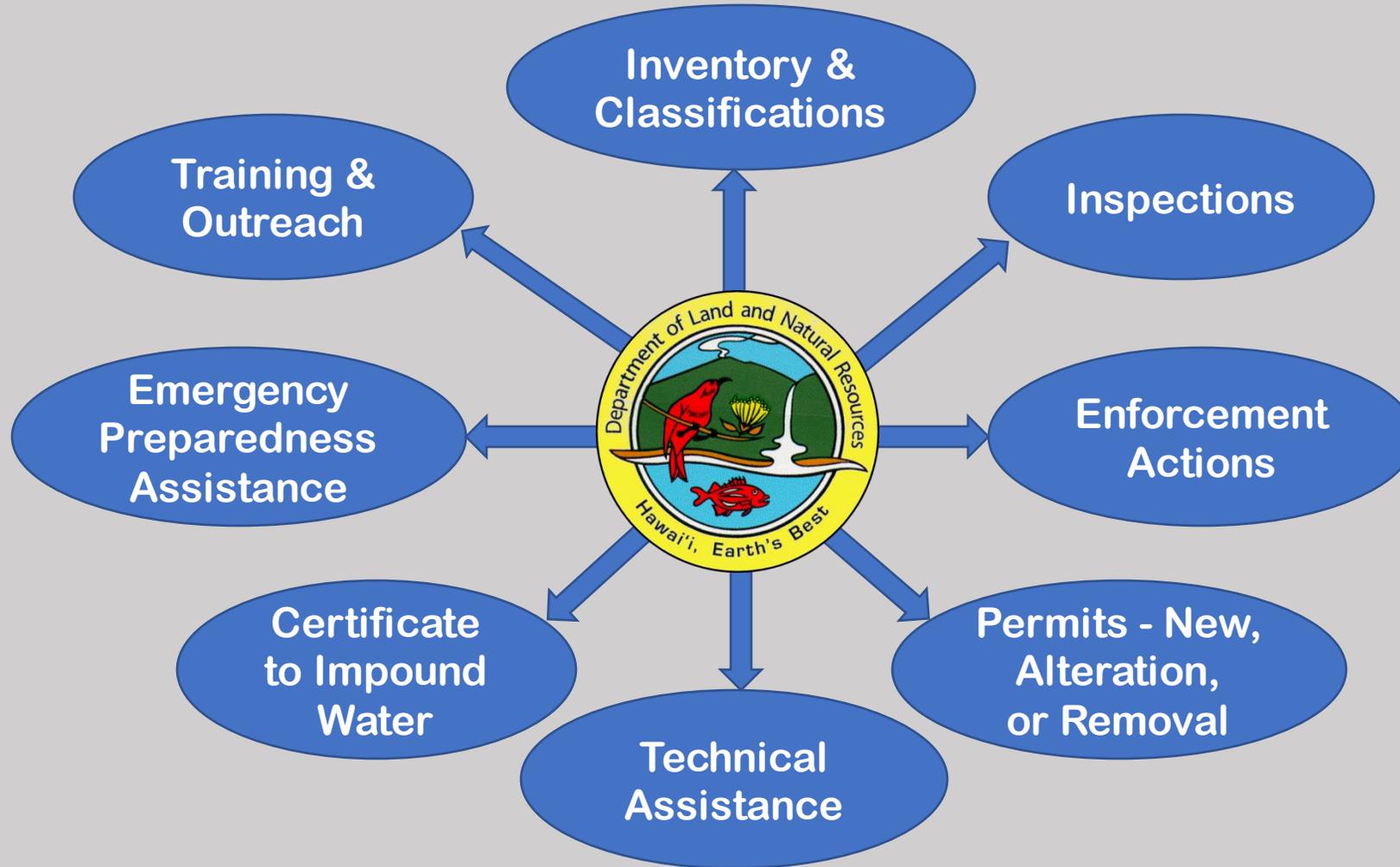
Hawaii Dam and Reservoir Safety Act of 2007

BLNR Authorities (HRS 179D)

- Consider dams and reservoirs as important water resources for the State that provide significant benefits to the general public, including irrigation for agriculture and other important uses, and acknowledge the need for dams and reservoirs to be consistently maintained and operated in a safe and feasible manner that sustains their roles as important water resources; provided that public safety concerns are addressed;
- Establish Rules
- Catalog and Maintain Inventory of Regulated Dams and Reservoirs
- Approve, Suspend or Revoke Dam Safety Permits for Construction, Alteration, & Removal
- Issue Certificates of Approval to Impound
- Issue Orders for Remedial Measures
- Enforcement Actions including Civil Penalties and Placing liens on Property



Major Functions of the Dam Safety Program



State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Engineering Division
Honolulu, Hawaii 96813

January 24, 2020

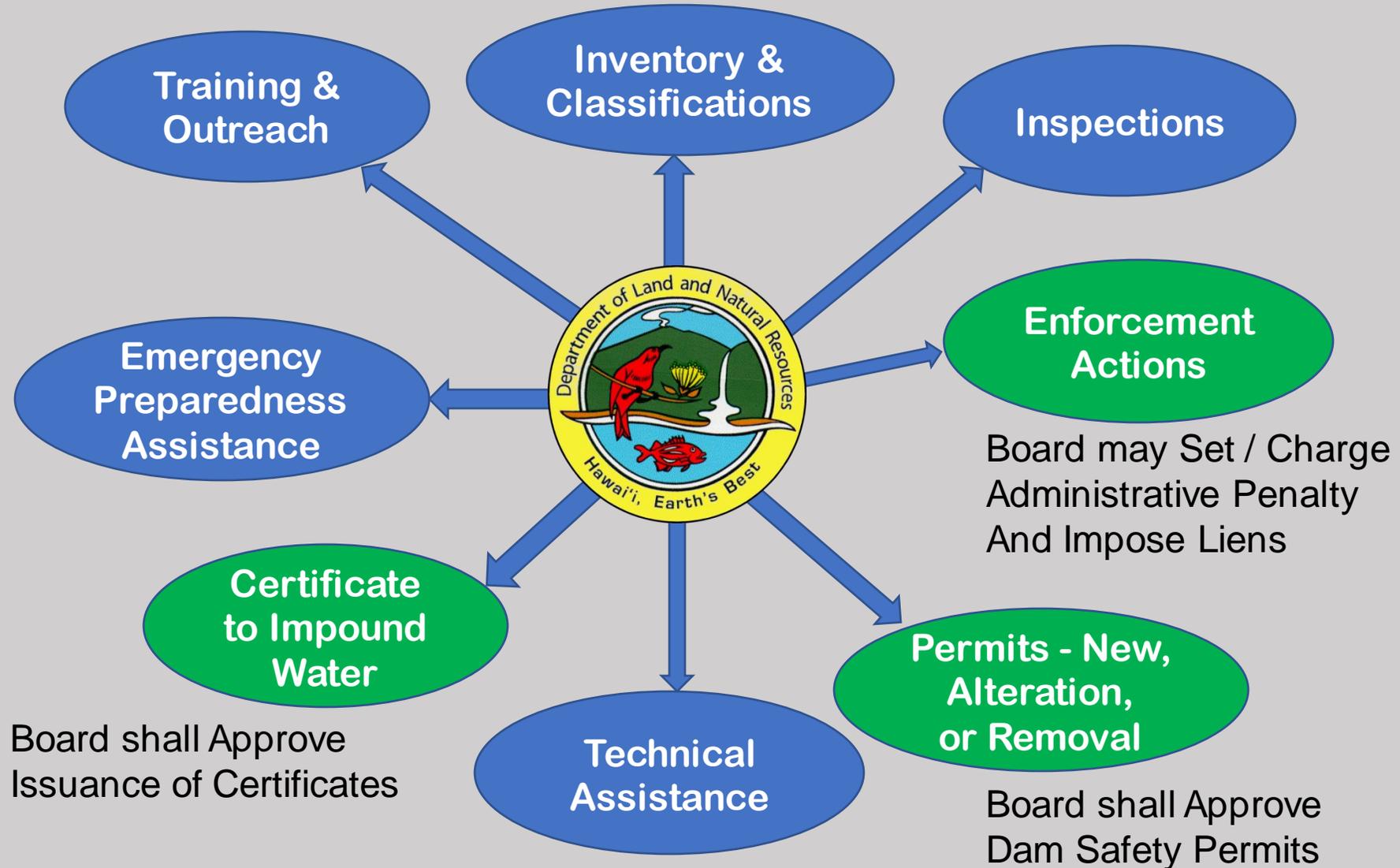
Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

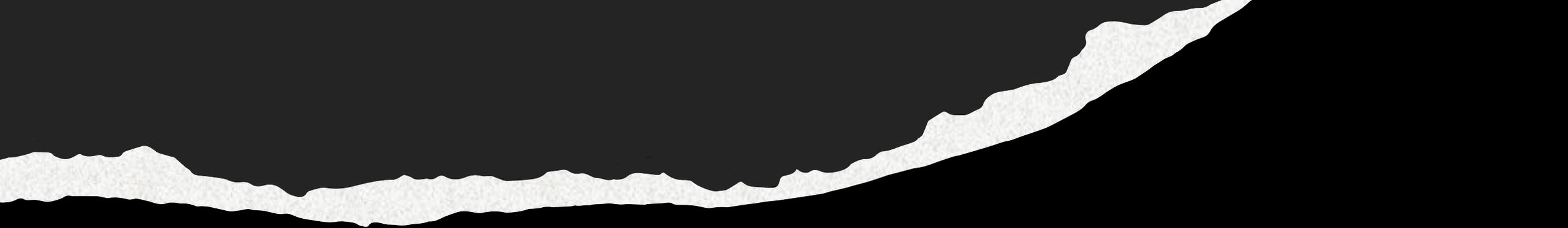
Jan 2020
Board
Delegation
of Authority

REQUEST THAT THE BOARD DELEGATE AUTHORITY TO THE CHAIRPERSON AND THE CHAIRPERSON'S DESIGNEE, THE POWERS AND DUTIES IDENTIFIED IN HAWAII ADMINISTRATIVE RULES CHAPTER 13-190.1 "DAMS AND RESERVOIRS" EXCEPT FOR HAR CHAPTER 13-190.1 SECTIONS 13-190.1-14(C), 13-190.1-23(B), 13-190.1-43, AND 13-190.1-44; AND AUTHORIZE THE CHAIRPERSON TO SIGN OTHER NECESSARY DOCUMENTS RELATED TO THESE POWERS AND DUTIES

The Engineering Division (Division) hereby submits for your approval a request to delegate certain administrative powers of Hawaii Administrative Rule Title 13, (HAR) Chapter 190.1, entitled "Dams and Reservoirs" to the Chairperson or the Chairperson's designee. HAR Chapter 190.1 details the administrative processes in carrying out the Board's duties set forth in Hawaii Revised Statutes (HRS) Chapter 179D, "the Hawaii Dam Safety Act of 2007".

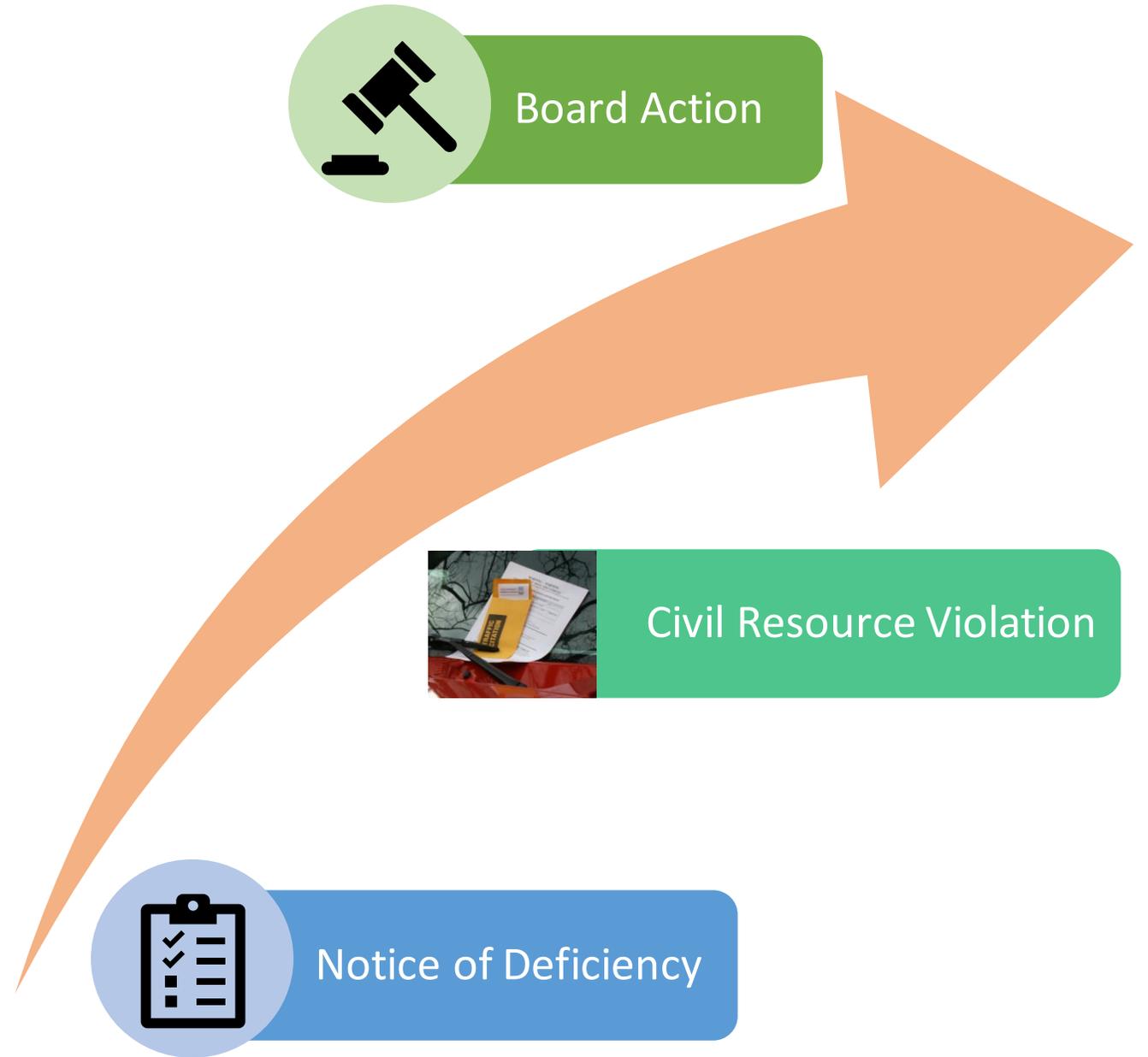
BLNR Dam Safety Roles (in green)





Dam Safety Enforcement

Enforcement Actions



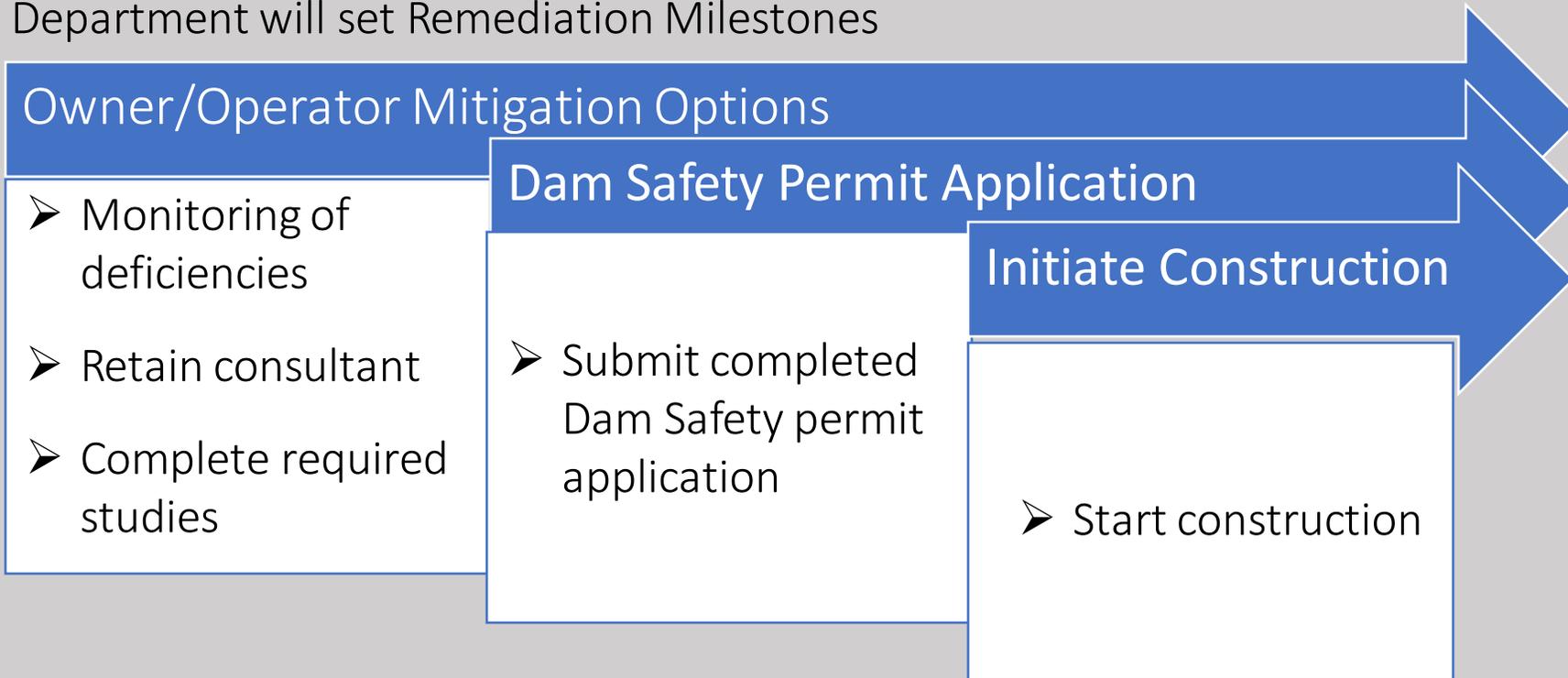
Notice of Deficiency

What triggers an NOD?

- Dam poses a safety risk, or is at risk of failure
 - ✓ Dam owner violates a regulation(s)
 - ✓ Unaddressed dam deficiencies
 - ✓ Dam in unsatisfactory or poor condition

Notice of Deficiency

Department will set Remediation Milestones



Failure to meet these milestones will result in Enforcement Actions issued administratively or by the Board of Land & Natural Resources



Exhibit 1: Engineering Division - Dam Safety Administrative Penalties Schedule

Item No.	Violation	Authorities	Fine - First Violation	Fine - Repeat Violation*	Chronic Violator#	Other Penalties^	Compliance Requirement	
	Impoundment Certificate Violations	HRS §§179D-6, 21; HAR §13-190.1-11						
MINOR 5-1	Failure to file an application to impound	HAR §§13-190.1-12, 51	Up to \$500	Up to \$1,000	May take Board action		Comply within 21 days or as directed	
5-2	Unsafe impoundment after being noticed by the Department	HAR §13-190.1-14(f)	Up to \$1,000	Up to \$2,000	May take Board action		Comply within 21 days or as directed	
5-3	Impoundment in violation of restrictions, terms or conditions of certificate	HAR §13-190.1-15	Up to \$1,000	Up to \$2,000	May take Board action	Suspension of Approval to Impound	Comply within 21 days or as directed	
	Permit Violations	HRS §179D-6, HAR §13-190.1-20						
5-4	Violation of permit terms, conditions or schedules	HAR §13-190.1-20	Up to \$1,000	Up to \$2,000	May take Board action	Suspension of permit	Comply within 21 days or as directed	
5-5	Failure to furnish requested information or submit required documents or reports	HRS §179D-6(b)(3) HAR §§13-190.1-30 and 31	Up to \$1,000	Up to \$2,000	May take Board action	Suspension of permit	Comply within 21 days or as directed	
5-6	Conducting minor construction work on dam without permit+	HAR §13-190.1-20(a)	Up to \$1,000	Up to \$2,000	May take Board action		Comply within 21 days or as directed	
5-7	Conducting moderate or major construction work on dam without permit+	HAR §13-190.1-20(a)	Land Board action required					

CIVIL RESOURCE VIOLATION

Page 1 of 2

Dam Safety Administrative Penalties Schedule

This table used to determine the fine amounts for first and repeat violations.

For chronic violators, the table can be used to discern between minor and major violations. (If not marked **MINOR**, it's a **MAJOR**.)

CIVIL RESOURCE VIOLATION

2 of 2

Dam Safety Administrative Penalties Schedule

This table used to determine the fine amounts for first and repeat violations.

For chronic violators, the table can be used to discern between minor and major violations. (If not marked **MINOR**, it's a MAJOR.)

Item No.	Violation	Authorities	Fine - First Violation	Fine - Repeat Violation*	Chronic Violator#	Other Penalties^	Compliance Requirement
	Dam and Reservoir Owner General Requirements and Responsibilities	HRS §§179D-6, 22, and 30					
MINOR 5-8	Failure to maintain required O&M plan	HAR §13-190.1-40.1	Up to \$500	Up to \$1,000	May take Board action	Suspension of permit	Comply within 21 days or as directed
MINOR 5-9	Failure to submit required EAP or EAP updates (high and significant dam owners)	HAR §13-190.1-42	Up to 500	Up to \$1,000	Make take Board action	Suspension of permit	Comply within 21 days or as directed
5-10	Failure to cooperate with the Board's agents in carrying out HRS Chapter 179D duties	HRS §§179D-6(b)(4), 30(3)	Up to \$1,000	Up to \$2,000	May take Board action	Suspension of permit	Comply within 21 days or as directed
5-11	Failure to allow DLNR staff or representative access to dam or reservoir	HAR §13-190.1-46	Up to \$1,000	Up to \$2,000	May take Board action	Suspension of permit	Comply within 21 days or as directed
MINOR 5-12	Failure to furnish requested information by stipulated deadline	HRS §179D-30(5)	Up to 500	Up to \$1,000	May take Board action	Suspension of permit	Comply within 21 days or as directed
5-13	Failure to pay the annual dam owner fee	HAR §13-190.1-52	10% of the delinquency plus interest		May take Board action	Suspension of permit	Comply within 21 days or as directed
5-14	Failure to complete corrective actions as ordered by the Board or its agent	HRS §179D-6(b)(16), HAR §§13-190.1-32, 40(c)	Up to \$1,000	Up to \$2,000	May take Board action	Suspension of permit	Comply within 21 days or as directed
5-15	Failure to timely address unsafe or emergency conditions	HAR §13-190.1-41	Up to \$2,000	Up to \$4,000	May take Board action	Suspension of permit	Comply within 21 days or as directed
5-16	Failure to repay costs of emergency actions	HAR §13-190.1-41(d) and (e)	Up to \$1,000	Up to \$2,000	May take Board action	Suspension of permit	Comply within 21 days or as directed

Penalty Calculation

For Board Action

$$\text{Penalty} = f(\text{Risk from dam failure})$$

- Major or minor violation
- Hazard classification
- Overall condition

Note: Based on an internal guideline Dam Safety Violation Penalties Framework

- Major violations are associated with CRVS items 5-2, 5-3, 5-4, 5-5, 5-6, 5-7, 5-10, 5-11, 5-13, 5-14, 5-15, and 5-16. Table 1 show the penalty guideline framework for these items.

Hazard Classification	HIGH	\$20K	\$25K
	SIGNIFICANT	\$15K	\$20K
	LOW	\$5K	\$10K
		POOR	UNSATISFACTORY
		Overall Condition Classification	

Table 1. Penalty guideline framework for the major violations.

- Minor violations are associated with the remaining CRVS items 5-1, 5-8, 5-9, and 5-12. Table 2 show the penalty guideline framework for these items.

Hazard Classification	HIGH	\$5K	\$5K
	SIGNIFICANT	\$5K	\$5K
	LOW	\$5K	\$5K
		POOR	UNSATISFACTORY
		Overall Condition Classification	

Table 2. Penalty guideline framework for the minor violations.

Recap of Dam Safety Enforcement Plan

DLNR Enforcement Actions

Notice of Deficiency

- Informs dam owner of violation(s)
- Remediation schedule & deadlines

Civil Resource Violation

- Unaddressed items from Notice of Deficiency
- First or second violators (typically)
- Fines up to \$4,000 per incident

Board Enforcement Action

Board Action

- Chronic violators
- Fines up to \$25,000 per incident per day
- Other, additional actions

Thank you

Q & A