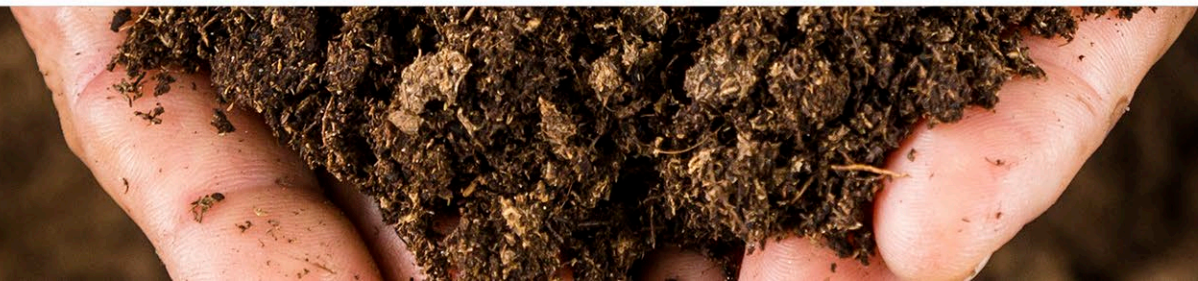
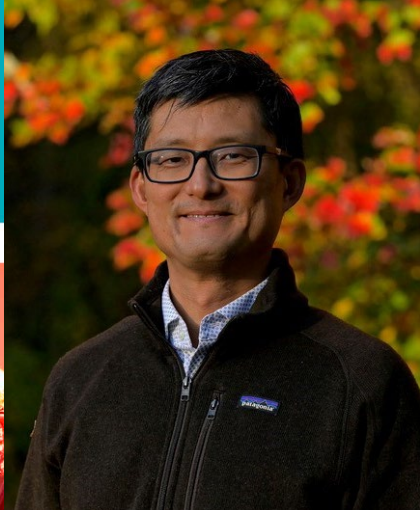




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Gene Kim, PhD
NRCS National Water Quality Specialist
and National Aquatic Ecologist

NRCS's role in Supporting Farmers of Fish, Shellfish and Aquatic Plants

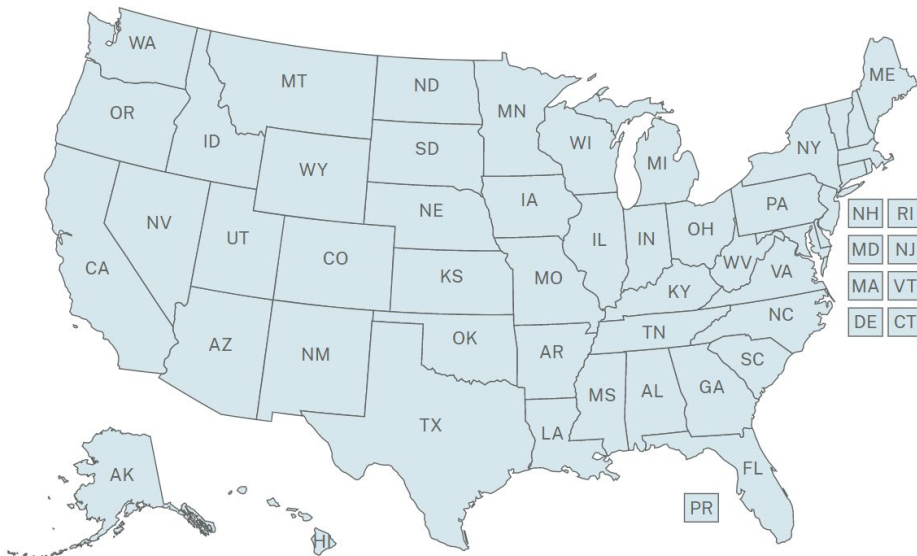


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NRCS Works Locally

- NRCS works with private landowners on private lands and Tribal Nations to address resource concerns across the U.S. in ~2,300 Service Centers in communities nationwide, found at <https://www.nrcs.usda.gov/contact/find-a-service-center>





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NRCS Conservation Practices

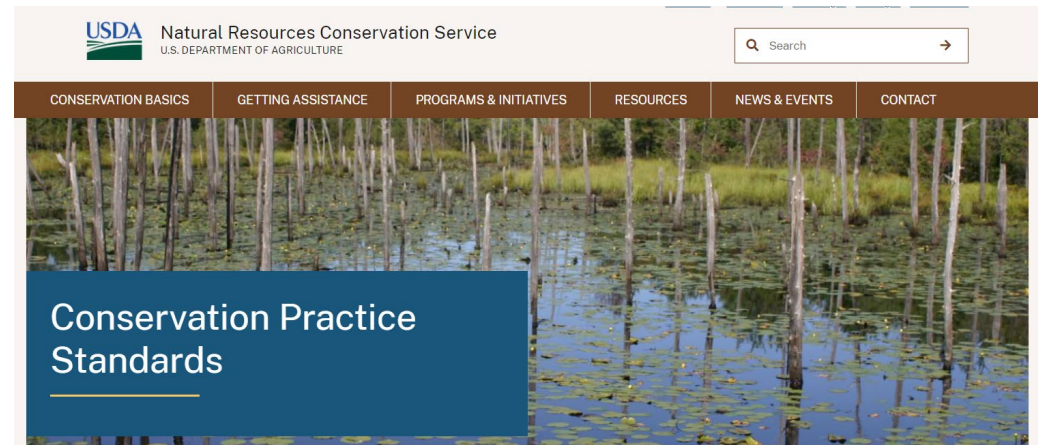


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National Conservation Practice Standards

- NRCS maintains National Conservation Practice Standards (CPS)
- A CPS establishes the minimum acceptable level of quality required to plan, design, install, operate, and maintain a conservation practice
- NRCS reviews ensure that CPS incorporate new science and innovative technology and address resource concerns
- *Federal Register* notices for comment on revised CPS



State Conservation Practice Standards

- CPS are the scientific foundation that supports field activities listed in the [Field Office Technical Guides \(FOTGs\)](#)
 - National CPS are adapted to the local geographic area for farm-level conservation planning
- [Payment Schedules \(Rates\) by State](#)
 - NRCS provides financial assistance for selected conservation activities
 - Availability and amount of financial assistance can vary among states



Aquaculture Conservation Practice Standards (CPS)

NRCS have conservation practices that apply directly to aquaculture, including:

- Aquaculture Pond ([CPS 397](#))
- Fish Raceway or Tank ([CPS 398](#))
- Bivalve Aquaculture Gear & Biofouling Control ([CPS 400](#))
- Restoration of Rare or Declining Natural Communities ([CPS 643](#) - oyster restoration scenarios)



Aquaculture Pond (CPS 397)

Definition: A water impoundment for farming of freshwater and saltwater organisms including fish, mollusks, crustaceans, and aquatic plants

Purpose:

- To provide a favorable aquatic environment for aquaculture crops
- To reduce or manage nutrient-enriched and pathogen-laden discharges

Applies to:

- Excavation (levee) or earthen embankments (watershed) ponds, managed for aquaculture purposes
- For ponds not managed for aquaculture, use Pond (CPS 378) and Fishpond Management (CPS 399)

FY23 National Scenarios:

- Aquaculture Pond; Pond with Harvest Kettle; With Rock Bottom

FY23 Additional Regional Scenarios:

- Aquaculture Split Pond; Partial Embankment; Concrete Pond

Shape: Polygon; **Units:** Acres; **Lifespan:** 10 years



Fish Raceway or Tank (CPS 398)

Definition: A channel or tank with a continuous flow of water constructed or used for high-density fish production

Purpose:

- Facility containing flowing water of suitable temperature and quality for dependable fish production
- Allows for the manipulation of chemical, physical, and biological factors to enhance fish production.

Applies to:

- Raceways or tanks that conduct flowing water to produce fish
- Earthen channels; channels & tanks constructed of concrete, concrete block, timber, rock, fiberglass

FY23 National Scenarios:

- Fish Raceway-Single; Fish Raceway-Parallel

FY23 Additional Regional Scenarios: N/A

Shape: Point; **Units:** Number; **Lifespan:** 10 years



Bivalve Aquaculture Gear & Biofouling Control (CPS 400)

Definition: Actions that reduce, clean, or remove biofouling organisms and other waste from bivalve production areas while minimizing environmental risk and risk to species of concern

Purpose:

- Reduce adverse impacts of shellfish aquaculture operations and gear on water, plant, animal, and human resources
- Improve dependable water quantity and quality to support shellfish production
- Improve adequate food quantity and quality to support shellfish production

Applies to:

- Near-shore, intertidal, and subtidal areas where bivalve aquaculture occurs

Shape: Polygon; **Units:** Acre; **Lifespan:** 1 year



Bivalve Aquaculture Gear and Biofouling Control (CPS 400)

FY23 National Scenarios: 10 National scenarios cover infaunal shellfish culture (e.g., clam bags) and epifaunal culture (e.g., oyster bottom cages)

- Infaunal Culture Yr-1; Infaunal Culture Yrs 2-3
- 50,000 Epifaunal Culture Yr-1; 50,000 Epifaunal Culture Yrs 2-3
- 100,000 Epifaunal Culture Yr-1; 100,000 Epifaunal Culture Yrs 2-3
- 500,000 Epifaunal Culture Yr-1; 500,000 Epifaunal Culture Yrs 2-3
- 1 mil Epifaunal Culture Yr-1; Epifaunal Culture

FY23 Additional Regional Scenarios:

- Oyster bag gear cycling; Clam net gear cycling; Oyster cage, large, gear cycling
- Epifaunal-Bags Only-Yrs.2&3; Epifaunal-Cage Cycling-Yrs.2&3; Epifaunal-Trip- Cage Cyc-Yrs.2&3



Restoration of Rare or Declining Natural Communities (CPS 643)

Oyster Bed Restoration Scenarios

Definition: Reestablishment of abiotic (physical and chemical) and biotic (biological) conditions necessary to support rare or declining natural assemblages of native plants and animals

Purpose:

- To restore the physical conditions and/or unique plant community on sites that partially support, or once supported, a rare or declining natural community. Application of this practice addresses resource concerns of a degraded plant condition and/or inadequate wildlife habitat

Applies on:

- All lands, including degraded aquatic, terrestrial, or wetland sites, that historically supported a functional rare or declining (dwindling or imperiled) native plant or animal community, where restoration is needed to achieve identified abiotic and biotic target conditions.
- This practice can also be applied to efforts to restore natural communities of local cultural importance.

Shape: Polygon; **Units:** Acre; **Lifespan:** 1 year



Restoration of Rare or Declining Natural Communities (CPS 643)

Oyster Bed Restoration Scenarios

FY23 National Scenarios: Seven national scenarios, but none for shellfish restoration

FY23 Regional Scenarios Include:

- Oyster reef restoration using planted oyster shells on a new site; Oyster reef enhancement at site with some existing cultch using planted oyster shells
- Oyster Bar Purchase and place 2 inch; Oyster Bar Purchase and place 4 inch
- Oyster Bar - Bagged Dredging
- Oyster Rack Spacing for Wildlife Movement
- Oyster Reef Barge Crane
- Oyster Bar Purchase and Place 2 inch, No Spat on Cultch
- Reef Creation-Live Oysters and Cultch
- Restoration of Coastal Reef: Spat on Shell Only; Communities with Shell Only; LARGE spat on Shell or Single Live Oysters
- Oyster Reef Monitoring: Year 1; Year 2; Year 3
- Oyster Reef Habitat Monitoring: Medium
- Oyster Reef and Disease Monitoring: Year 1
- Shell Substrate; Seeded Cultch Oyster Placement; Seeded Oysters Bags and Shell Substrate Placement
- Reef and oyster bar creation and restoration- concrete structures





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NRCS Technical and Financial Assistance

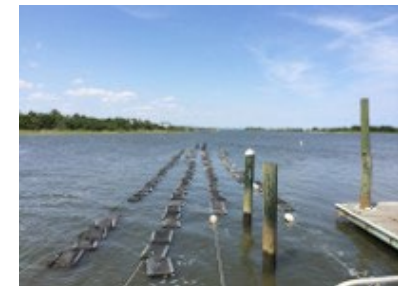


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Technical Assistance

- **NRCS assists producers with identifying conservation objectives to addresses soil, water, air, plant, and animal natural resource concerns**
 - Fisheries and wildlife biologists, engineers, agronomists, foresters, archaeologists, economists, etc.
- **Technical assistance for aquaculture is provided in the areas of:**
 - Agriculture Engineering for aquaculture infrastructure
 - Water Quality technical assistance (i.e., clean water inputs and nutrient management outputs)
 - Energy Conservation Engineering
 - Water Management Engineering for water conveyance systems
 - Wildlife enhancement – both terrestrial and aquatic opportunities
- **Partnerships and Technical Service Providers**
 - Offer planning, design, and implementation services to participants on behalf of NRCS
 - Integral part of NRCS
- **Conservation Concerns Tools**
 - Information on [farmers.gov](https://www.farmers.gov) to help public identify resource concerns



Financial Assistance

Financial assistance for eligible aquaculture producers is provided through a variety of programs, including:

- [Environmental Quality Incentives Program \(EQIP\)](#) provides financial and technical assistance to agricultural producers to address resource concerns and assists implementing conservation practices
- [Conservation Innovation Grants \(CIG\)](#) are competitive grants that drive public and private sector innovation in resource conservation
- [Regional Conservation Partnership Program \(RCPP\)](#) promotes coordination of NRCS conservation activities with partners that offer value-added contributions to expand our collective ability to address on-farm, watershed, and regional natural resource concerns





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Aquaculture Input for NRCS

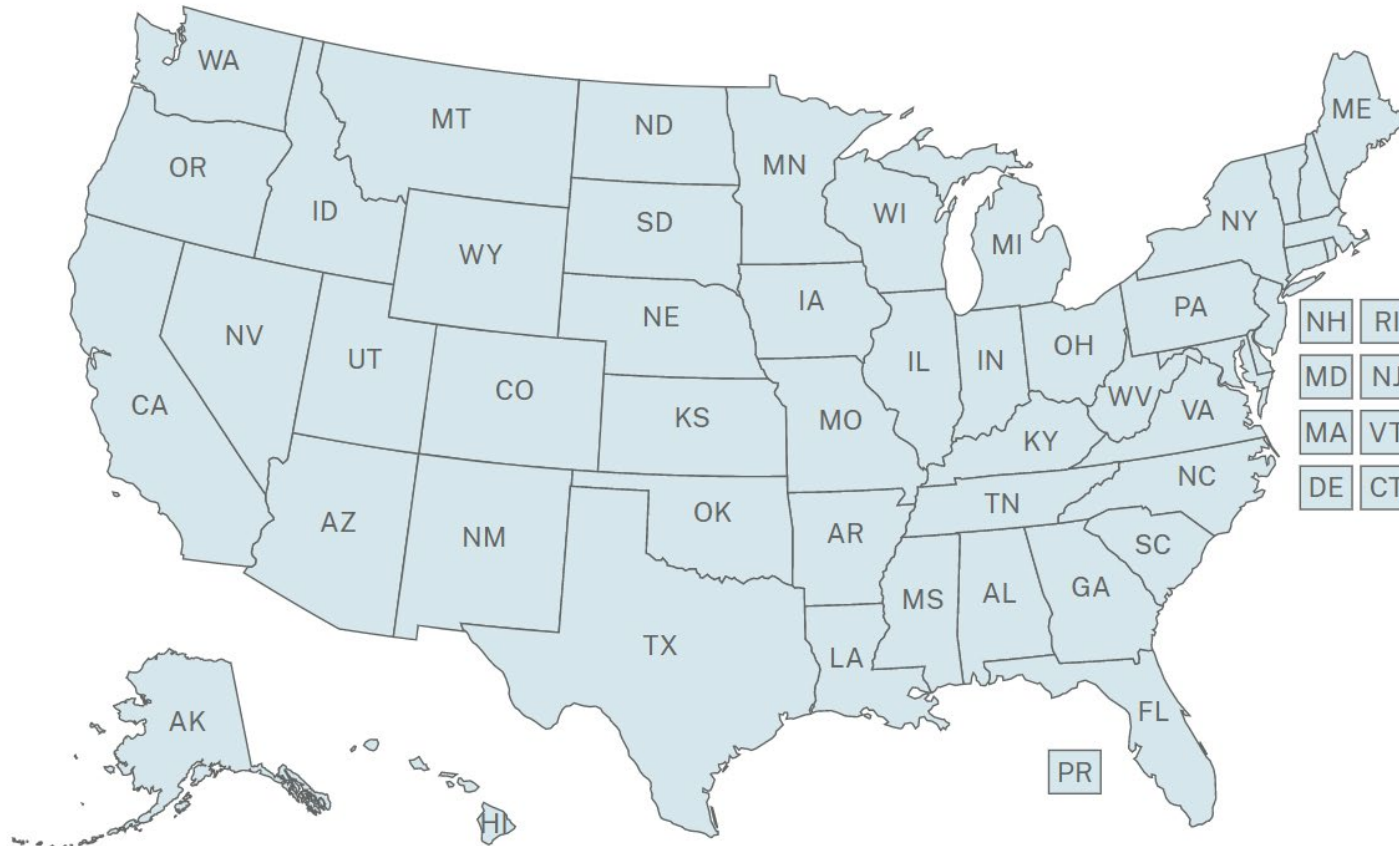


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Local Input

NRCS State Conservationists and direct staff are based in [NRCS State Offices](#) across the country, including U.S. Territories.



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State Technical Committees & Local Working Groups

State Technical Committees serve in an *advisory* capacity to NRCS and other agencies of the USDA on the implementation of the natural resource conservation provisions of Farm Bill legislation. Committees include members from a wide variety of natural resource and agricultural interests

- [NRCS Policy: General Manual 440-501-C State Technical Committees](#)

Local Working Groups assist the USDA in matters relating to the implementation and technical aspects of conservation programs under Title II of the Agricultural Act of 2014 (the 2014 Farm Bill)

- [NRCS Policy: General Manual 440-501-B Local Working Groups](#)



QUESTIONS?

Charlie Culpepper

charlie@thenaa.net

National Aquaculture Association (thenaa.net)

Gene W. Kim

Gene.W.Kim@usda.gov

USDA NRCS

