

# Module 1: History of Wetland ID in the United States

# 2011

In this Module the course participants will be introduced to the history of wetland ID in the U.S. from the Swamplands Act of 1849 to the Food Security Act of 1985. The purpose of this historical review is to provide the framework to the Food Security Act Wetland ID Procedures.

Developers:

[Lee.Davis@ftw.usda.gov](mailto:Lee.Davis@ftw.usda.gov)

[David.Heffington@ar.usda.gov](mailto:David.Heffington@ar.usda.gov)

[Cari.Ostberg@mt.usda.gov](mailto:Cari.Ostberg@mt.usda.gov)

[Dean.Kwasny@ca.usda.gov](mailto:Dean.Kwasny@ca.usda.gov)

[Karen.Dudley@nh.usda.gov](mailto:Karen.Dudley@nh.usda.gov)

# Module 1- History of Wetland Identification in the United States and its Relationship to Making Wetland Determinations and Delineations for Food Security Act Purposes

## Objectives

Upon completion of this module, the student will:

- ✓ **Have an awareness of the history of wetland identification efforts in the U.S.**
- ✓ **Have an awareness of the unique NRCS responsibilities when making wetland determinations related to the Wetland Conservation (WC) Provisions of the 1985 Food Security Act (FSA).**

## Key Concepts

- ❖ Wetland terms and phrases (i.e. hydric soils, hydrophytic vegetation, growing season, and normal circumstances) are often program/law specific.
- ❖ Currently, the two primary federal “laws” requiring the identification of wetlands are Section 404 of the Clean Water Act (CWA) and the Wetland Conservation provisions of the Food Security Act of 1985 (FSA). Each has its own specific definitions.
- ❖ FSA wetland identification decisions are based on unique definitions (e.g. wetland definition, hydric soil definition, and hydrophytic vegetation definition) provided by Congress to the USDA and USDA program participants.
- ❖ The WC provisions of the FSA were designed as a “self-certification” program, where USDA program participants have the personal responsibility to remain compliant. The role of NRCS is to assist the participant with identifying the areas of their land that are subject to the WC provisions and issuance of exemptions

This module is designed to take 0.5 -1.0 hour and does not include a field exercise. Links are provided as optional learning opportunities.

## *Learning Concept 1-1: Science and its Association with Society and Politics*

Although many claim that science is always objective and is completely independent of the ebbs and flows of societal and political concerns - history tells a very different story. Perceptions, knowledge, and scientific definitions change over time based on societal needs, experience, and increased knowledge. These influences have changed the concepts of what is a wetland throughout the history of the United States.

Wetlands are not distinct objects that someone can pick-up and measure. Nor do they have DNA. Rather, they are dynamic features that fall somewhere along an ever-changing moisture gradient. Wetlands look different during different seasons of the year and between years based on disturbance and/or changes along climatic gradients.

There have been many wetland definitions and concepts of a wetland over the years and those concepts continue to evolve over time. This evolution is based primarily on changes in societal perceptions. What was considered a “swampland” under the Swamplands Act of 1849 differs from what is considered a “wetland” under the wetland conservation (WC) provisions included in the Food Security Act of 1985 (FSA). In State and Federal programs there are 4 primary wetland definitions being used today (Circular 39, Cowardin et. al, Clean Water Act, and FSA). NRCS staffs administer different programs that require the use of each definition.

Those individuals asked to identify wetlands must apply those definitions and those concepts within the program in question. For example: for the WC provisions included in the FSA the identification of wetlands is made within the constraints of: (1) the FSA wetland definition; (2) the FSA hydric soil definition; and (3) the FSA hydrophytic vegetation definition provided to USDA by Congress in the Food Security Act. When working on the National Resource Inventory (NRI), NRCS staffs must utilize Cowardin et al.'s 1979 publication titled Classification of Wetlands and Deepwater Habitats of the U.S.

Those making wetland identification decisions today need to understand that there is not a right or wrong when it comes to any particular wetland definition. Rather, those making wetland identification decisions must understand that wetlands are being identified for different purposes, under different rules and with the use of different definitions. It is the role of the NRCS staff person to utilize the definition and/or wetland identification process that meets the needs of the client.

This training is designed to provide a knowledge base to NRCS staffs specific to administering the WC provisions. However, in this module, other wetland inventories, programs, and laws will be introduced to the student. So, before we move to wetland identification for FSA purposes, let's discuss the history of different federal wetland identification efforts in the U.S.

## Learning Concept 1-2: How has the Concept of a “Wetland” Changed in the Last 150 years?

The history of wetland identification in the U.S. can be divided into two different periods: The Pre-Regulatory Period (1849 – 1977) and the Post-Regulatory Period (1977 – current). Within the Pre-Regulatory Period, there were four major laws that required the identification of wetlands: (1) The Swamp Lands Acts; (2) USDA Inventories of Swamp and Overflow Lands; (3) USFWS’s 1956 inventory of waterfowl habitat; and (4) USFWS’s National Wetland Inventory. Each of these laws/programs has served as a foundation for the FSA Wetland ID Procedures.

### Swamp Land Acts of 1849, 1850, and 1860

*“The vague criteria [of swamp land] were the source of much contention and litigation in later years” – Quote from the Government Lands Office (GLO) as it applied to the Swamp Land Act (SLA) of 1849*

Looking at this quote, it is apparent that within the field of wetland identification, the challenges faced by the nation’s first wetland delineators, remain valid today. Before one can answer the question - **What is a Wetland?** - “criteria” must be defined and provided to the individual being asked to render a decision. In wetland ID, the term “criteria” are the quantifiable or conceptual limits to meeting a specific wetland definition or related definition (e.g. *hydric soil*). Wetland criteria are based on the purpose and/or program under consideration.

The question asked by those trying to identify and/or delineate a moving target (a wetland) is: “How wet (timing, depth, or duration) is a wetland?” Are we talking about an inch of inundation or saturation 5 inches under the surface? Is flooding for 24 hours enough? What about ponding during the winter? Does that count? The wetland delineators in 1849 needed to know: “How wet is a *Swamp Land Act* Wetland?”

Regarding the Swamp Land Act of 1849, the Federal Government granted to the State of Louisiana those lands which were “too wet for cultivation”. The threshold (criteria) was being too wet to farm without major drainage efforts or state sponsored drainage projects. The hope was that Louisiana would fund and implement projects to dike, drain, and reclaim these “wastelands.” The Act was expanded to other states in later years. The States paid for swamplands delineation surveys and other expenses needed to determine which lands fit the criteria: “too wet for cultivation.” No doubt, as they attempted to map *swamp lands*, field scientists and surveyors must have been frustrated by the expectations of lawmakers that a definitive swampland “line” could be both determined and defended (remember, federal officials were granting land to the State, and wanted justification of their decisions). Did lawmakers of the time understand that the “line” was a zone (ecotone) rather than a finite point on the land? Did they understand that areas of well-drained arable soils (ridges) occurred within the boundaries of the non-arable soils (swamplands and overflow lands)? Did they understand that conditions were constantly changing based on normal and abnormal climatic conditions?

Take a moment to consider the following question:

- Based on the intent of the law, how wet would an area have to have been to be delineated as a wetland for the Swamplands Act?
- How would these “lands” differ from your perception of a wetland?

Based on the intent of the SLA, the criterion for a SLA wetland was: Not just lands too wet for cultivation, but lands so wet that construction of field ditches would not remove the water. The Swamplands Act (SLA) targeted lands needing large drainage projects. If we re-frame the question from “What is a Wetland?” to, “What was a SLA Wetland?” we can better answer the question as we can use the intent of the Statute to set some side-boards (criteria). A SLA wetland was one that was too wet to consistently produce a crop without installation of large state funded drainage or levee projects. A field that could be drained with on farm efforts (a mule/horse and slip -scraper) would likely not be considered “too wet” by the federal staffs administering the program.



The slip-scraper is pulled by a horse or mule and was the first efficient way to move dirt. This was a necessary tool for all farms. Huge drainage/level projects were completed with this implement too.

## USDA Inventory of Swamp and Overflow Lands of 1906, 1922, 1940, and 1953

***“This office is being called upon by Members of Congress and others interested in the matter for information as to the amount and location of swamp and overflow lands in the United States that can be reclaimed for agriculture.” (USDA 1907)***

Following the SLA’s of 1849, 1850, and 1860, the next major effort to inventory wetlands was undertaken by USDA when it was directed to conduct national wetland inventories in 1906, 1922, 1940, and 1953. Similar to the SLA, these efforts were directed to identify swamp lands and overflow lands “with the potential for conversion to agriculture”. However, unlike the SLA, a land survey (delineation) was not required. Of interest is the recognition in this law that there was a difference between “swamplands” (wetlands) and “overflow lands” (floodplains). No such separation existed with the Swampland Acts.

Throughout this course, you are encouraged to reflect on the information being presented. When you learned about the USDA inventory of the early 1900’s, did you ask yourself:

- What did USDA staffs considered a wetland (swamplands) for this inventory?
- Based on the intent of USDA, would the concept or criteria utilized likely differ significantly from that of the SLA?
- How would these “lands” differ from your perception of a wetland?

## 1956 U.S. Fish and Wildlife Service's Circular 39:

***“While this is not the first inventory of the Nation’s wetlands, it is the first such inventory designed to delineate the wildlife value of the wetlands...”*** (USFWS internal document, July 17, 1956) <http://www.fws.gov/news/historic/1956/19560117.pdf>

The first national effort to identify and address wetlands as an important national resource was the 1956 U.S. Fish and Wildlife Service (USFWS) wetland inventory report by Samuel Shaw and Gordon Fredine (*Circular 39, Wetlands of the United States, Their Extent and Their Value to Waterfowl and other Wildlife, Circular 39* <http://www.npwrc.usgs.gov/resource/wetlands/uswetlan/index.htm>). Shaw and Fredine categorized wetland inventory data based on a wetland classification system designed by Martin et al. (1953). Circular 39 separated wetlands into Martin’s 20 wetland types based on Martin’s wetland definition (one of the first formal definitions of wetlands):

***“Wetlands are lowlands covered with shallow and sometimes temporary or intermittent waters. Shallow lakes and ponds, usually with emergent vegetation as a conspicuous feature, are included in the definition, but the permanent waters of streams, reservoirs, and deep lakes are not included. Neither are waters areas that are so temporary as to have little or no effect on the development of moist-soil vegetation.”***

Of importance, is Shaw and Fredine’s concept that wetlands normally support “moist-soil vegetation” and the use of the term *lowlands*. Additionally, streams and deep lakes were recognized as not being wetlands, but shallow lakes (even those without vegetation) were wetlands. These sideboards were criteria used to decide if the area is a wetland, and if so, the different wetland type.

Remember, the purpose of any wetland identification effort is of critical consideration in the establishment of the wetland definition and wetland criteria used in the administration of the project, program, or policy. The development of Circular 39 was funded by Duck Stamp funds and the purpose was to serve as a technical tool to assist wetland wildlife (waterfowl) habitat managers. Thus, areas subject to river flooding in the winter provide important waterfowl feeding and resting habitat. Even if dry throughout the growing season, these areas were considered wetlands in Circular 39. The inventory and concept of a wetland was wildlife habitat (waterfowl) based, and the growing season was of no consequence.

Within Martin’s Inland Fresh category were Type 1 wetlands (Seasonally Flooded Basins or Flats) that did not require any depth, duration (length of time the site is inundated), or timing (i.e. growing season) of inundation. The requirement for an area to be a Type 1 wetland varied from “*only seasonal submergence (well drained much of the summer) to lands that are waterlogged*” such that the area exhibits the “*development of **moist-soil vegetation***”. In their description of Type 1 wetlands, it was pointed out that “shallow basins that are submerged only temporarily usually develop little or no wetland vegetation”. So by this definition, the “higher” portions of a Type 1 wetland would not support hydrophytic vegetation, but were wetlands nonetheless. When using Circular 39, the question is not “What is a Wetland”, but rather “What is a Circular 39 Wetland Type?”

**How Does this Relate to Me?** Prior to the mid 1980's, Circular 39 was used by the Soil Conservation Service (SCS) in their Protection of Wetlands policy and some state wetland laws are still linked to the wetland classification in Circular 39. Of critical understanding for today's resource managers and wetland delineators is that the concept of a wetland in Circular 39 was more inclusive (in floodplains) than what is used today by the U.S. Army Corps of Engineers (Corps) and the Environmental Protection Agency (EPA) in their administration of the CWA, or by NRCS when administering the WC provisions. It was also more inclusive than the Swamp Lands Acts.

- What kind of areas would meet the wetland criteria for Circular 39?
- Based on the purpose of the Circular 30, would the concept or criteria utilized likely differ significantly from that of the Swamp Lands Act?
- How would these "lands" differ from your perception of a wetland?

## USFWS National Wetland Inventory (NWI): 1974-Present:

***“The U.S. Fish and Wildlife Service established the National Wetlands Inventory in 1974 to develop and provide resource managers with information on the location, extent, and types of wetlands and deepwater habitats. When it began, the principal focus of the Inventory was to produce maps of wetlands” ([http://www.fws.gov/nwi/Pubs\\_Reports/NWI121StatFNL.pdf](http://www.fws.gov/nwi/Pubs_Reports/NWI121StatFNL.pdf))***

Approximately 20 years after Shaw and Fredine’s 1956 inventory, the USFWS directed its Biological Services Department to design and conduct a new national wetland inventory. Unlike Circular 39’s goal of targeting potential wildlife habitat management opportunities, the purpose of the “new” National Wetland Inventory (NWI) was to inventory national trends regarding wetland acres, types, and condition. Commodity prices were soaring at the time (soybean prices reached \$13.00 a bushel!) and there was concern for rapid wetland habitat losses due to conversion to agriculture. The charge of the Biological Services Program was to “*supply information on key environmental issues*” and “*present information that will aid decision makers in the identification and resolution of problems associated with major land and water use changes*”. The precursor to the inventory itself was the development of a new wetland classification system. Cowardin et al. (1979) undertook this classification effort and published the *Classification of Wetlands and Deepwater Habitats of the U.S.* (<http://www.chartiff.com/pub/WetlandMaps/Cowardin.pdf>).

Cowardin et al. (1979) defined wetlands as:

***“lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of the year”.***

Unlike Martin et al. (1953), Cowardin et al. (1979) introduced the concepts that: (1) wetlands need not necessarily be inundated (as “saturation near the surface” was a criterion); and (2) wetlands do not necessarily support predominately hydrophytes vegetation. Cowardin explained that wetlands must have “one or more” of the attributes (hydrophytes, undrained hydric soil, saturation/ponding) but need not have all three.

Rather than limit the inventory to just wetlands, the USFWS included other water resources (deep water habitats and streams) in their classification system. Similar to Circular 39, no minimum duration or timing of the inundation event was required (hydrology criteria); However, the hydrologic conditions did need to be wet enough to effect a change in the plant community. “Moist-soil vegetation” was replaced with “*at least periodically the land supports predominantly hydrophytes*” and the phrase “*hydric soil*” was first used in a wetland definition and defined as “*Soil that is wet long enough to periodically produce anaerobic conditions, thereby influencing the growth of plants.*” But remember, a Cowardin wetland need to only support one of the three attributes.

A hydrophyte was defined as “Any plant growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content (plants typically found in wet habitats)”. Thus, the concept of a hydrophyte was based on how the individual was behaving on the site in question, and not so much on the species for which it belonged.

**Why is this important to me?** You will see this definition of a hydrophyte again, so it would be advisable to read it again and think about what Cowardin et al. were saying. They were not saying that a hydrophyte necessarily needs to be of a particular species, but rather a hydrophyte is a single plant that has been able to compete enough on the site in question by growing in water or a reduced substrate. Cowardin et al. understood that the likelihood of a plant to occur in a wetland is not just dependent on wetness but a combination of stressors. He understood that individual plants within a species can occur along a wide range of moisture gradients based on a combination of hydrology and other stressors. The question that Cowardin et al. asked was not about the species but how individual plants are behaving on the site in question. This concept that - individual plants within a species can adapt to wet environments differently from other individuals within the same species - is supported by another USFWS wetland expert, Ralph Tiner (Tiner 1991).

- What kind of areas did USF&WS staffs (or contractors) considered a wetland for this national wetland inventory?
- Based on the purpose of the NWI - would the concept or criteria presented by Cowardin et al. likely differ significantly from that of the Swamp Lands Act, or Circular 39?
- How would these “lands” (Cowardin et al. wetlands) differ from your perception of a wetland?

## The Beginning of Wetland Regulation (1972/1977)

### Statute, Regulation, and Policy

Before we move further into the discussion of federal wetland regulation and programs, the use of some common non-technical terms needs to be clarified. NRCS staffs need to understand these terms for the administration of all federal programs

- The term “**statute**” refers to a state or federal act or other legislation. For example, the CWA and FSA are both federal statutes. Statutes refer to the written document that is signed into law. If a federal court makes an interpretation of the statute (e.g. “SWANCC” for Section 404, “Horn” for WC provisions), then those court decisions/interpretations (although not written into the statute) are considered part of the law (called “case law”). So the difference between the statute and the law is that the statute is the part of the law provided by congress and signed into law. The law can include subsequent court decisions. Statutes/laws can be of a regulatory nature (CWA) or of a non-regulatory nature (most of the Farm Bill conservation programs). They can result in criminal penalties (CWA) or not (FSA).
- The term “**regulation**” refers to the federal agency policy and procedural requirements that are published in the Federal Register (FR) or in the Code of Federal Regulations (CFR). The term *rule* is commonly used in lieu of CFR, FR, or “regulations”. For example: the NRCS “Appeals Rule” is the “NRCS Appeals Procedures”, as published in the CFR. Somewhat confusing is the use of “regulation” or “regulatory”. This may mean a statute that regulates the public, such as the Clean Water Act, or the WC provisions. These are commonly referred to as *regulatory* statutes. The word is also used to describe a part of a document published in the Federal Register or in the CFR. For example, the “regulatory” definition of *normal circumstances* is referring to the specific definition of *normal circumstances* as published in the CFR. Regulations are commonly published through a proposed, interim final or final rule; if they are to be permanent regulations, they are set out in the CFR after publication in an interim/final rule. All of the CCC, FSA, and NRCS regulations are provided in Title 7 of the CFR.

Once published in an interim final rule or final rule, the information (regulation) in the Federal Register/CFR has the “weight of law”. Information/procedures provided by regulation (in the CFR or FR) are subject to judicial review. If the courts disagree with the rule, then that part of the rule may be invalidated. The court’s role in the federal administrative process is provided for in the Administrative Procedures Act (APA). The APA also requires that prior to becoming final, that some rules undergo a public review process. This public review is not always required. Lastly, all rules are published by the part of the executive branch that is provided the statutory administrative responsibility. The HELC and WC rule (7CFR12) was published by the Secretary of Agriculture, not NRCS. Why? Three different USDA agencies (Farm Services Agency, NRCS, and the Cooperative State Research, Education, and Extension Service) have administrative responsibilities under the Highly Erodible Land Conservation (HELC) and Wetland Conservation (WC) provision in the FSA of 1985. Some rules are published jointly by different agencies or departments, if the statute grants joint responsibilities.

- **“Policy”** (as the term is used by NRCS) typically means *“internal policy (and procedures)”* and is developed by agency staffs with or without public review. For example, the Corps Regulatory Guidance Letters are internal policy documents linked to their Section 404 responsibilities that do not undergo public review. The National Food Security Act Manual (NFSAM) is the NRCS policy document for the HELC and WC provisions that also does not undergo public review. These are internal agency policies. Some agency policies are published in the Federal Register. If written correctly, an agency internal policy will not conflict with the language of the applicable statute or regulation.

Internal agency policy does not have the “weight of law” as they did not undergo the public review (and/or legal or judicial review) required by the APA. Thus, policy documents may be considered by NAD Hearing Officers and Federal Courts, but if they are determined to be in conflict with statute or regulation, they carry little weight in the decision.

**Why is this important to me?** All agency staffs should understand the use of the terms – statute, regulation, and policy. It is particularly important when making an adverse technical decision that each agency expert understands the legal basis (authorities) for their decision. The NRCS staff making FSA wetland determinations (an adverse technical decision) is referred to as the “agency expert”. The Food Security Act Wetland Identification Procedures (appendix to the NFSAM) defines an Agency Expert as: *“An individual granted job approval authority by a State Conservationist to make adverse technical decisions related to the WC provisions. The criteria for being granted job approval authority is found in the National Food Security Act Manual Part 514.1(B). All Agency Experts must be listed on a roster of qualified employees, maintained by each State Conservationist and filed in Section III of the Field Office Technical Guide.”*

Unlike the array of past national wetland inventories, regulatory wetland program decisions (jurisdictional wetland determinations) require much more consideration to detail (decisions can have an adverse effect to individuals and the public). Decisions must be defensible and the decision process must be repeatable. Financial, political and legal consequences must be assessed by policy developers. Because Section 404 impacts the public, the requirements of the 1946 Administrative Procedures Act (APA) are triggered - public notification, comment, and consideration of those comments. As designed in the APA, compromises between scientists, regulators and the public are made during the rule-writing process.

- Conduct a brief internet search on the suit in Florida regarding the Corps interpretation (internal agency policy) of Prior Converted Cropland and Abandonment to gain an appreciation of the difference between regulations and internal agency policy?

## Section 404 of the Clean Water Act

Although many might consider the passage of the 1972 Federal Water Pollution Control Act (changed to the Clean Water Act (CWA) in 1977) the start of the wetland regulatory period, the Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (Corps) did not consider most wetlands as falling under the jurisdiction of the CWA until after a 1975 district court decision (NRDC vs. Calloway). This decision expanded the Corps interpretation of its jurisdictional responsibilities with regards to Section 404 of the CWA. In 1972, the concept of a wetland that would fall under the jurisdiction of Section 404 was viewed by the Corps as only wetlands in direct contact with a navigable watercourse. In 1977, the EPA and the Corps modified their regulations (Federal Register) based on this court decision. Thus, most consider 1977 as the beginning of the wetland regulatory period. Presently, there are two major Federal Statutes that require the identification of wetlands. They are the 1977 CWA and the Food Security Act of 1985 (FSA). Both are important to NRCS field staff as both laws can impact USDA program participants.

EPA has regulatory and enforcement responsibilities for the CWA. Section 404 is the section within the CWA that requires a permit for the placement of dredged or fill material in “waters of the U.S.” (including wetlands). These permitting responsibilities are granted from EPA to the Corps. Wetland determinations are required in order to process Section 404 permit applications.

The 1975 district court decision NRDC vs. Calloway expanded the Corps jurisdictional scope from adjacent wetlands (those immediately adjacent to navigable waters) to most wetlands of the U.S. regardless of their immediate (adjacent) connectivity to navigable waters. As a result, a need to better “refine” the term *wetland* specifically for CWA jurisdiction developed. The Clean Water Act did not provide a definition of wetlands and it became apparent that the Corps and EPA needed to establish quantifiable physical attributes (criteria) of a CWA jurisdictional wetland, and determination/delineation protocols. The Corps and EPA used best available science, the unique statutory intent/authorities of the CWA, and concerns of the regulated public to derive a wetland definition and develop Section 404 policies.

In 1980, EPA issued interim guidance for identifying wetlands under Section 404. In 1980 and 1982, US Army Corps of Engineers and EPA published a joint rule and provided their definition of a wetland as:

***“Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.”*** (33 CFR Section 328.3)

This definition was used by the Corps and EPA as they developed and published the Technical Report Y-87-1 Corps of Engineers Wetlands Delineation Manual (Corps 1987 Manual) and Wetland Identification and Delineation Manual (EPA 1988 Manual).

According to this definition, wetlands subject to Section 404 must be vegetated by species that are “typically adapted for life in saturated soil conditions,” a far cry from Circular 39’s criteria of “moist-soil vegetation” or even Cowardin’s criteria for Type 1 wetlands and wetland vegetation.

The Corps and EPA added further clarification suggestive of the level of wetness by adding that wetlands are “*swamps, marshes, bogs, and similar areas*”. Note that unlike Circular 39 and Cowardin, they did not use more mesic terms/phrases such as “*lowlands*”, “*moist*”, or “*covered with water at some point*”, or “*bottomlands*”. In their definition, the Corps and EPA attempted to establish a “bar” for what separates a “wetland” that would fall under the jurisdiction of the CWA, from a “wet area”, “overflow area”, or “lowlands”.

The concept introduced by the Corps and EPA in their administration of Section 404 of the CWA was that wetlands always meet **all three** wetland factors: (1) *support a prevalence of hydrophytic vegetation*, (2) *have saturated soils*, **and** (3) *are inundated or saturated for a “frequency and duration...”* This three-factor (parameter) requirement is the cornerstone of current federal jurisdictional wetland definitions (Section 404 and the WC provisions of the FSA).

It is paramount that NRCS staff understands the distinction between the Cowardin requirement of a wetland (which is used for NRI, NWI, and the 1988 Plant List), of having “*any one*” of the three characteristics AND what is required for a CWA wetland or a FSA wetland (must have all three).

Because the Corps, EPA, and SCS were in need of a resource tool to assist with their ever increasing wetland identification responsibilities, a decision was made in the 1980’s to utilize the USFWS’s List of Plants that Occur in Wetlands (<http://www.usace.army.mil/CECW/Documents/cecwo/reg/plants/list88.pdf>) when identifying wetlands for FSA and CWA purposes. The concepts and literature used to decide the likelihood of a species occurring in a wetland for the 1988 Plant List were based on the USFWS wetland definitions and criteria, rather than the FSA and CWA concepts of a wetland.

Both the USFWS’s NWI and the NRCS’s NRI continue to use Cowardin in their efforts to monitor national wetland trends. It is understandable then, that NWI maps may not match the findings of a wetland determination conducted for WC compliance or Section 404.

## Food Security Act of 1985

Another significant national wetland protection/conservation program came on the scene a few years following the CWA. Contained within the 1985 Farm Bill, titled the Food Security Act of 1985 (FSA), Congress included the Wetland Conservation (WC) provisions, commonly referred to as “Swampbuster”. In the WC provisions, USDA program participants were prohibited from converting wetlands to cropland after 1985 (unless the action qualified for an exemption as provided in the Act). In 1990, the Act was revised to change the non-compliance “trigger” from “planting of a crop on a converted wetland” to “for the purpose of, or making production of an annually tilled crop possible”. Failure of the program participant to comply with the WC provisions would result in ineligibility to participate in most USDA programs.

Within Section 404 of the CWA and the WC provisions of the FSA, there are differences between (1) compliance triggers, (2) agency administrative authorities, and (3) definitions related to the identification of wetlands.

In the 1985 FSA, Congress defined wetlands subject to the WC compliance requirements as:

***“land that has a predominance of hydric soils and that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions”.***

In the Urgent Supplemental Appropriation Act, 1986, Congress added the following to the wetland definition:

***“except that this term does not include lands in Alaska identified as having a high potential for agricultural development and predominance of permafrost soils.”***

The Alaska exception was added to the regulations (code of federal regulations) in 1987 and modified in subsequent farm bills to read: ***“For the purpose of this Act, and any other Act, this term shall not include lands in Alaska identified as having high potential for agricultural development which have a predominance of permafrost soils.”***

For the first time (and only time) in the history of the U.S., Congress defined the term “wetland”. Also, for the first and only time in federal law, Congress also provided a definition for the terms “hydric soil” and “hydrophytic vegetation”. Each of these three definitions (as provided by Congress) differs slightly from what is used by the Corps and EPA for Section 404. Remember, just because Congress defined the terms wetland, hydric soil, and hydrophytic vegetation in one law does not mean that those definitions apply to another federal law.

The definition of “hydrophytic vegetation” provided in the FSA follows that of Cowardin’s definition of a hydrophyte and the term is “singular” not plural as it based on the “behavior” of the individual plant on the site in question, not on the species. No definition was provided in the FSA for wetland hydrology (although it can be inferred from the FSA wetland definition “inundated or saturated by surface or groundwater at a frequency and duration sufficient to support ...”). The hydric soil definition provided to USDA in the FSA differs only slightly from that used by the Corps. The Corps follows the definition

used by the National Technical Committee for Hydric Soils (NTCHS). NRCS used the definition provided in the law. Of significance is the fact that when defining a FSA wetland, Congress added the requirement that a FSA wetland support a “predominance” of hydric soil. The wetland definition used by EPA and the Corps for Section 404 does not use predominance for their hydric soil decisions.

As the result of the WC provisions, the USDA Soil Conservation Service (SCS) began an effort in 1986 to determine/delineate wetlands on lands owned and/or operated by USDA program participants. This was a daunting task as SCS also had to make Highly Erodible Land (HEL) determinations on every cropland field operated by a USDA program participant in the U.S. and develop plans for the newly enacted and highly popular Conservation Reserve Program (CRP). SCS staffs were not trained in the identification of wetlands based on the FSA wetland definition and criteria. Their understanding of wetlands at the time was limited to the broader concepts contained in Circular 39 (SCS wetland protection program and Waterbank Program) and a lesser extent the Cowardin Wetland Classification System. As discussed earlier, both of these USFWS concepts took a more inclusive view of what is considered a wetland -as both were ecosystem-scale inventories without a regulatory basis. Conversely, the USDA wetland determination responsibilities related to the WC provisions were linked to a new statute that had significant consequences to USDA clients. SCS, in their efforts to deal with the WC provisions, were sailing uncharted waters.

As discussed, the use of the phrase “*predominance of hydric soils*” in the FSA wetland definition is unique to the FSA (not used by the Corps). The concept by SCS at the time was to use soil surveys as the primary tool to determine if a site supported a predominance of hydric soil. After all, SCS was a planning agency and land treatment decisions were typically made at the “field-scale” based on soil mapping units.

The NRCS policy and procedures document for the conservation provisions was first contained in the National Manual in Assisting ASCS Cost-Share Programs (NMACSP) and later in the National Food Security Act Manual (NFSAM).

Since the introduction of the 1986 NMACSP, various versions of the NFSAM and the 1987 Corps manual, the onsite versus offsite wetland determination methods have been (and still are) the topic of much conversation and debate. In the June 1990 release of the NFSAM, SCS explained that “*where adequate information does not exist to make offsite wetland determinations, onsite determinations must be made. In most cases, wetland determinations can be made in the field **without** rigorous sampling of soils, hydrology, or vegetation.*” During this period, the agency supported the concept that wetland determinations (1) can most often be made using off-site tools (primarily soils maps and aerial photography) and (2) need **not be rigorous** if field sampling is used, except for rare situations.

The primary NFSAM method to determine if the site supports a prevalence of hydrophytic vegetation was a visual FAC-neutral assessment. This method is dissimilar to the FAC-Neutral approach used by the Corps and much different than the visual estimate method presented in the Corps Manual (routine less than 5 acres method or 50:20 rule).

Using the SCS visual method, a decision was made based on a visual assessment if the site supports more wetland “plants” listed as FACW and OBL than “plants” that less commonly occur in wetlands (FACU and UPL). Facultative plants (FAC) are those species that occur as often in wetland as in non-wetlands. And were not considered (or were “neutral”) in the visual assessment. Species were not

tallied individually; rather the decision was made without collection of sampling data. The decision was made based on if more FACW and OBL plants occurred than FACU and UPL plants. It was a simple yes/no question.

Infield soils investigations were very rare and, if made, were for confirmation of soil map units. These methods were used to make wetland determination by SCS/NRCS until 1994.

**Why is this important to me?** NRCS staffs need to understand the process used to make decisions prior to the 1994 MOA (discussed below) and the 1996 revisions to the regulations. In many states, program participants still use the pre-1994 MOA determinations that have been delineated (outlined) on older Farm Service Agency maps.

### **1994 Wetlands MOA**

The largest change for SCS/NRCS regarding wetland delineation procedures used to make WC decisions occurred in 1994 following the signing of the Memorandum of Agreement Among the Department of Agriculture, The Environmental Protection Agency, the Department of the Interior, and the Department of the Army Concerning the Delineation of Wetlands for the Purposes of Section 404 of the Clean Water Act and Subtitle B of the Food Security Act <http://www.wetlands.com/fed/fr190194.htm>.

The objective of the 1994 Wetlands MOA was to achieve more consistent wetland identification decisions between the Corps and NRCS -- therefore meeting the Administration's goal of "one-stop-shopping". The MOA stated that each agency would use the Corps 1987 Manual for determinations on **areas** that supported native vegetation and each agency would use NRCS State Mapping Conventions (primarily off-site methods) for agricultural lands (cropland and tame pasture) as defined in the MOA. Narrow bands and isolated pockets within agricultural lands were also treated different.

The ideas contained in the MOA were never completely implemented by NRCS, as the NFSAM required that NRCS staff use the newly developed Hydric Soils Field Indicators Guide and allowed for use of the NRCS Hydrology Tools for Wetland Determinations for wetland hydrology determinations. At the time, the Corps did not adopt the use of these two technical tools for CWA wetland determinations. Thus, the Corps and NRCS never used completely identical methods, but they were very similar.

Regardless, the 1994 Wetlands MOA changed the way NRCS conducted wetland determinations. Specifically, offsite soil map units were not used very often; the newly released Hydric Soil Field Indicators Guide was used instead. NRCS staffs were also required to consider the Corps' hydrology indicators when making determinations on non-agricultural lands. More significantly, the pre-1994 NRCS use of the SCS FAC-neutral approach (where only FACW and OBL are considered hydrophytes) came to an abrupt end. This resulted in a substantial increase in the jurisdictional scope of lands subject to the requirements in the WC provisions, as those plant communities dominated by FAC species (again, those that occur as often in wetlands as outside of wetlands) are considered wetland plants (hydrophytes) by the Corps Methods. These areas would not have been wetlands using the SCS methods prior to 1994.

The scale, data collection procedures, and technical knowledge required of NRCS wetland delineations changed significantly after the Wetlands MOA was signed. Many states shifted the responsibility from field office staffs to specialists. Other states established "teams" consisting of soil, plant, and

hydrologist specialists. Interestingly, the Corps manual was designed and had been applied since its release as a tool to be used by a single individual, not teams of “specialists”. Once NRCS technical staffs because more experience with on-site wetland identification, most states evolved from this “team approach” to the “individual wetland expert” approach without loss of quality, but a significant increase in efficiency.

The result of the 1994 Wetlands MOA was that Corps’ wetland determination methods (as supplemented by the Hydric Soil Field Indicators) had become the standard wetland determination method used by NRCS staffs in many areas of the nation. A technical windfall of the MOA was that many NRCS staff became highly skilled in the art and science of conducting on-site wetland determinations.

### Post MOA Period

As discussed, the definitions used by the two agencies for hydrophytic vegetation, hydric soils, and wetlands are different. Other jurisdictional differences evolved between the two agencies after 1994 (i.e. abandonment of Prior Converted croplands). NRCS and Corps Leadership questioned if the MOA exceeded their respective statutory authorities. For these reasons and other reasons, in 2005 NRCS and the Corps withdrew from the 1994 MOA ([http://www.nrcs.usda.gov/programs/compliance/pdf\\_files/2-28-05\\_NewGuidance\\_Wet\\_Det.pdf](http://www.nrcs.usda.gov/programs/compliance/pdf_files/2-28-05_NewGuidance_Wet_Det.pdf)).

Immediately following the withdrawal from the MOA in 2005, the NRCS policy was to use either the: (1) NFSAM along **or** (2) a mesh between the Corps 1987 Manual and the NFSAM. After the development of Corps Regional Supplements, NRCS released a national bulletin (May 10, 2007) directing each State Conservationist to decide which method would be used in their state. The choices were the: (1) NFSAM, (2) 1987 Manual, or (3) 1987 Manual supplemented by regional supplements. Exactly one year later - on May 10, 2008, NRCS released yet another change when it updated the wetland parts of the 4<sup>th</sup> edition of the NFSAM. The 2008 NFSAM revisions directed that both on-site and off-site methods are applicable, and stated that *Methods for offsite and onsite determinations are listed in the NFSAM Appendix*. So after February of 2008, NRCS staff were directed to only use the methods in the NFSAM appendix which were the pre-2005 concepts of a mix and match approach in regards to criteria, manual, and technical tools depending on the status of the land. During this period (after the February 2008 release of the 4<sup>th</sup> Edition to the NFSAM) the Corps’ Regional Supplements were not part of the official NRCS toolbox for the identification of wetlands for FSA purposes. The next section will discuss this in more detail.

**Why is this important to me?** The point to this “post 1994” discussion is that NRCS and the Corps never used the exactly same methods in every situation. In fact, in most regions of the U.S. the differences were significant. But after 1994 the methodology became much more similar, and in some situations/regions very similar. With the release of the CORPS regional supplements (beginning in 2008) the two methods become even more similar (or more divergent) depending on the ever-changing policy.

### 4<sup>th</sup> Edition of the NFSAM Methods and NFSAM Appendix

Because of the fact that the NFSAM appendix did not officially allow for the use of Corp’s regional supplements, NRCS released a guidance document (Circular 4) on December 1, 2010 which stated “This circular provides guidance to NRCS staff with the appropriate job approval authority who are listed on

the State Conservationist's roster of qualified employees in utilizing the methods found in Part IV of the 1987 Manual, along with the regional supplements...". The purpose of the Circular was to provide guidance until the agency could decide how to implement a "Decision Memorandum" by the Chief where a decision was made to use the Corps Manual and the supplements within the legal authorities provided to NRCS in the FSA and the regulations to the WC provisions (7CFR12). NRCS Policy and Technical experts were charged with the development of policy for inclusion into the appendix to the NFSAM on how to utilize the Corps Methods but within the statutory and regulatory authorities provided to USDA and NRCS and within Case Law. Remember, the NFSAM (body) stated that wetland ID methods were provided in the appendix. Plus, the regulations (7CFR12) required that NRCS develop wetland identification procedures specific for the WC provisions. NRCS needed to meet these legal and policy mandates by providing clarity to the States on the specific procedures that would be used to identify wetlands for FSA purposes.

The statutes and regulations used in the administration of the Clean Water Act and the Food Security Act do not allow for consistent application in every situation. The result of the legal/programmatic assessment conducted after the release of Circular 4 was a product titled the Food Security Act Wetland Identification Procedures. The "FSA Procedures", first released on July 9, 2010 in Circular No. 5 as an appendix to the NFSAM, provided clear guidance to states that NRCS would utilize Part IV-Methods of the 1987 Manual and approved Regional Supplements (if available) – but only after consideration of very specific "FSA Variances" included in the FSA Procedures. The "**FSA Variances**" were included to assure that all NRCS wetland identification decisions meet the unique (1) FSA wetland definition, (2) FSA hydric soil definition, and (3) FSA hydrophytic vegetation definition provided by the law and by USDA regulation. Part of the FSA wetland definition is the requirement that decision be based on "normal circumstances". The FSA Procedures provide much guidance on the statutory requirement that decisions must reflect site conditions that would occur under normal circumstances.

This discussion of differences between the CWA and the FSA does not suggest that NRCS and the Corps wetland identification methods are completely different. To the contrary, NRCS adopted the Corps wetland identification methods (just with FSA variances). Nonetheless, it is imperative that the NRCS agency expert understand not only the Corps Wetland Identification Methods provided in Part IV of the 1987 Manual and the regional supplements, but also the FSA variances to those methods. The following modules will introduce the students to the three wetland diagnostic factors used by the Corps and NRCS in the identification of CWA wetlands and FSA wetlands. These three wetland diagnostic factors are:

- ✓ hydrophytic vegetation,
- ✓ hydric soil, and
- ✓ wetland hydrology,

The primary emphasis of this training (Phase 1) is to introduce students to the three wetland diagnostic factors. FSA Variances will be introduced, but will not be the emphasis of this phase of the training. Rather, Phase 2 will provide much more detail on how FSA Variances are used in the decision making process.

References:

Martin, Alexander C., Neil Hotchkiss, Francis M. Uhler, and Warren S. Bourn. 1953. Classification of wetlands of the United States. U. S. Department of Interior, Fish and Wildlife Service, Special Scientific Report – Wildlife No. 20. 103p.

Shaw S. P., and C.G. Fredine. 1956. Wetlands of the United States: their extent and their value to waterfowl and other wildlife. USF&WS Office of River Basin Studies. 67p.

Tiner, Ralph W. 1991. The concept of a hydrophyte for wetland identification: individual plants adapt to wet environments. BioScience Vol. 41, No. 4