

NPDES Cost of Compliance Staff Report

**State Water Resources
Control Board**

November 18, 2014

**Actions Addressing Cost of Compliance Resolution
Staff Report to the State Water Resources Control Board
November 18, 2014**

On September 24, 2013, the State Water Resources Control Board (State Water Board) adopted [Resolution 2013-0029](#), which directs staff to respond to stakeholder concerns regarding the cost of compliance with numerous Water Board permitting programs. Action Item 4 of the resolution directs:

State and Regional Water Board staffs, working together with the "NPDES Roundtable" and stakeholders, shall document existing practices and report to the State Water Board by September 10, 2014, regarding any additional steps recommended to ensure a transparent, consistent and efficient process for issuance and reissuance of individual NPDES permits. The report shall include, but is not limited to, practices that: (a) identify duplicative or unnecessary monitoring and reporting requirements in existing permits; (b) encourage use of surrogate or representative sampling where appropriate; and (c) clearly document in the permit Fact Sheet the need for and the purpose, value and use of any special studies and reports.

On March 2014, the State and Regional Water Boards (collectively, Water Boards) formed an NPDES cost of compliance subcommittee to carry out the direction of the resolution. The subcommittee, working closely with all Regional Water Board NPDES program managers, reviewed the "June 2013 Resource Alignment Initiative – Proposals" document prepared by the stakeholder group representing publicly owned wastewater treatment plants regulated with NPDES permits. In addition, the subcommittee identified existing practices that NPDES program managers implement in their regions to reduce dischargers' cost of compliance with NPDES permits.

During May and June 2014, the subcommittee and NPDES stakeholders met to discuss and develop recommendations. Water Board staff concur that in some cases, monitoring and reporting requirements in individual permits do not provide information that is useful in answering necessary management questions—sometimes because the data collected is of poor quality and sometimes because it does not add any value relative to information that already exists. A more detailed data analysis than could be conducted within the time frame for this review is necessary before specific monitoring recommendations can be made and validated. Therefore, Water Board staff recommends that the State Water Board take the following additional steps to address cost of compliance issues regarding NPDES permitting:

1. Develop a process to review existing compliance monitoring programs to identify potential use of joint-discharger or regional monitoring and study requirements in place of individual-discharger monitoring and study requirements (this step will help reduce the instances where permit conditions are imposed that requiring duplicative and unnecessary monitoring);
2. Identify parameters that are repeatedly monitored but not detected in order to develop criteria staff can use to identify where reduced monitoring frequency is appropriate (this step will help staff identify where monitoring and reporting frequencies can be reduced);
3. Identify water quality correlations among pollutants/parameters where concentrations or levels of one parameter correlate with threat to water quality from other parameters, and identify potential surrogate monitoring where appropriate (this step will help staff identify appropriate surrogate or representative sampling); and
4. Identify the types of study and reporting requirements that yield valuable information for further regulatory actions to improve water quality, and identify the types of studies and reporting requirements that do not directly lead to improvement of water quality (this step will help document the need for special studies).

Additionally, the subcommittee makes the following recommendations for immediate implementation:

1. Develop permit writing guidelines and procedures to:

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- a. Consider using information gathered through collaborative and/or regional monitoring and studies (such as those currently practiced in the San Francisco Bay region and Southern California regions) for permitting and compliance determination needs, in place of requiring separate monitoring and study requirements in permits;
 - b. Reduce compliance monitoring and frequency based upon a discharger's consistent compliance with its permit; and
 - c. Use surrogate monitoring to substitute constituents that can be easily and inexpensively analyzed for constituents that are more costly and difficult to analyze (e.g., substitute turbidity monitoring for total suspended solids monitoring).
2. Work with the Total Maximum Daily Load (TMDL) Roundtable and stakeholders to identify an approach to TMDL development that imposes monitoring requirements incrementally in a way that allows potential upstream pollutant sources to either be confirmed or eliminated with the goal of eliminating monitoring on upstream tributaries that are not contributing to pollution.
 3. Continue developing general permits for discharges that involve similar waste constituents and have similar water quality impacts (e.g., the Drinking Water Systems Discharge General Permit, a Hydrostatic Testing Water from Utility Construction and Maintenance General Permit, etc.) to provide for threat-specific monitoring requirements, permit implementation efficiencies, and reduced reporting.

Water Board staff further recommends that the NPDES program undertake a systematic review of NPDES permitting processes at each of the regions in order to determine causes of delay based on available statistical information. To that end, the Division of Water Quality has filed an application with the Governor's Office of Business and Economic Development (GOBIZ) seeking to have the NPDES program participate in GOBIZ's joint effort with the Government Operations Office to participate in Lean Six Sigma training, intended to address process-based issues within state departments that cause delays in services to both internal and external stakeholders (<http://www.business.ca.gov/Programs/Permits/Lean6SigmaTrainingProgram.aspx>). This effort will address the regulated community's desire that the program make processes more clear and consistent.

The remainder of this staff report provides the specific NPDES stakeholders' recommendations, the NPDES Roundtable subcommittee's response, and proposed Water Board staff actions that correspond with the summarized recommendations above.

I. NPDES STAKEHOLDER RECOMMENDATIONS

A. Stakeholders' Recommendation 1: Address Duplication of Ambient Monitoring Requirements

The State Water Board, in conjunction with stakeholders, should develop a process that allows collaborative monitoring, reduced compliance monitoring frequency, reduced constituent monitoring, and use of surrogate monitoring.

Subcommittee's Response

The subcommittee supports this recommendation. Collaborative regional monitoring approaches enable dischargers to share technical resources, trained personnel, and associated costs to collect necessary information for decision-making and follow-up actions directly related to safe drinking water and protection of beneficial uses. The subcommittee concurs that leveraging resources will allow assessments of pollutant sources, fates, and cumulative effects on water body and regional bases.

Some Regional Water Boards (e.g., the San Diego Water Board) are already transitioning to a systematic monitoring approach that is water body-oriented rather than discharge-oriented, and is designed to answer specific questions such as:

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- Is the water safe for drinking?
- Is the water safe for swimming?
- Are fish and shellfish in the water safe to eat?

The San Diego Water Board has documented this approach in its staff report entitled "A Framework for Monitoring and Assessment in the San Diego Region" which is available at http://www.waterboards.ca.gov/sandiego/water_issues/programs/swamp/index.shtml. The report outlines an approach to monitoring and assessment that focuses on producing important and useful information to enable the San Diego Water Board to carry out its mission more strategically and more effectively. The approach is conceptually simple, logical, systematic, question-driven, and water body-oriented, and has been successfully used elsewhere in California.

In addition, the San Francisco Bay Water Board has had its Regional Monitoring Program in place since 1993. The program has replaced nearly all discharger receiving water monitoring in individual permits. (See <http://www.sfei.org/>)

Establishing regional monitoring efforts within a region is staff intensive and spans the needs and budget of multiple programs. The subcommittee supports the stakeholders' recommendation to maximize the use of collaboratively gathered information through existing regional monitoring programs. Regional Water Boards with existing regional monitoring programs have been successful in using collaboratively gathered information in place of information gathered through separate NPDES monitoring and study requirements. The San Diego and San Francisco Bay regions serve as models for coordinated consideration of NPDES permitting requirements and regional monitoring programs.

The subcommittee will discuss the strengths and successes of existing collaborative monitoring efforts with the NPDES stakeholder groups to learn how to appropriately consider regional information for permitting needs, and assist those Regional Water Boards that will have new regional monitoring programs in the future.

Proposed Water Board Staff Actions

1. Water Board staff should compile development documents, status reports, and operating agreements for collaborative regional monitoring efforts currently implemented within the State to assist other Regional Water Boards in coordinating NPDES permitting needs with future regional monitoring information as their regional monitoring programs are developed.
2. Water Board staff should work with stakeholders to develop a process to review existing compliance monitoring programs and to identify established water quality correlations for surrogate monitoring requirements and studies.
3. The process identified in Item 2 above, should include provisions in guidance documents and training materials to guide permit writers to replace conventional monitoring requirements with updated requirements corresponding with the cost of compliance effort.
4. Water Board staff should compile a list of candidate water bodies and/or candidate constituents for collaborative monitoring efforts.
5. Water Board staff should coordinate with state and local public agencies and private entities that currently perform monitoring to determine if existing monitoring stations and monitored constituents can be adjusted to fulfill regional monitoring needs.

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B. Stakeholders' Recommendation 2: Reduce Unnecessary Monitoring for Entities with a Positive Compliance Record for Specific Parameters

The State Water Board should use language that already exists in some permits that allows monitoring frequency to be reduced if several consecutive samples indicate compliance, for example: Order R8-2012-00272, Section VII.B.2. In addition, State and regional policies should include provisions that allow the reduction of monitoring frequency after a specified period of time.

Subcommittee's Response

The subcommittee supports reducing routine effluent monitoring requirements for facilities that have a good compliance record and a demonstrated ability to successfully and consistently treat and/or control their wastewater. Monitoring reduction should be based on a well-defined decision-making process that provides for parameter by parameter compliance history assessment and sound statistical predictions of the likelihood of future effluent limitation exceedances. Some Water Boards are already implementing this recommendation using the two approaches described below:

1. Require more frequent monitoring initially with permit provisions that automatically (a) reduce the monitoring frequency when certain thresholds are met and (b) return to the more frequent monitoring when limitations are exceeded; or
2. Require reduced monitoring at the outset with permit provisions that automatically (a) increase the monitoring frequency when effluent limitations are exceeded, and (b) return to the reduced monitoring when certain thresholds are met.

Examples include State Water Board's General Pesticide Permits that contain language that implements Option 1 above, (e.g., [Note 5, Table C-1, Page C-6, Weed Control Permit](#)). The San Diego Water Board's draft permit for the [International Boundary and Water Commission, South Bay International Wastewater Treatment Plant](#) contains similar language in Note 5 of Tables E-2 and E-3 that implements Option 2 above.

Proposed Water Board Staff Actions

1. Water Board staff should identify instances where monitoring frequency may be reduced based upon the discharger's compliance record. Water Board staff should seek subsequent concurrence regarding proposed monitoring reduction from the United States Environmental Protection Agency (U.S. EPA).
2. Water Board staff, with assistance from the NPDES stakeholders, should develop a process to identify specific parameters that are not detected, yet subject to required monitoring.
3. Place instructions in Water Board guidance and permit writing training materials to guide permit writers to implement developed approaches for monitoring frequency reduction.
4. Permit templates, similar to the existing language in the State Water Board's general NPDES pesticide permits that provides for monitoring frequency reduction. This existing language is recommended because reduction in monitoring is based on a discharger's demonstration of consistent compliance with its permit. Additionally, Water Board staff should provide example language in permit templates that allows for reduced monitoring requirements in reissued permits for dischargers that demonstrate a history of compliance related to those requirements.

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C. Stakeholders' Recommendation 3: Encourage Use of Surrogate (Indicator Parameter) Sampling Where Appropriate

The Water Boards should allow for a reduction or elimination of the monitoring requirements for one or more parameters when two or more similar parameters are required to be monitored. Examples of such indicator monitoring parameters include: (1) turbidity where monitoring for turbidity and total suspended solids (TSS) is required and (2) fecal coliform where monitoring for total coliform and enterococcus is required.

Subcommittee's Response

The Water Boards may consider this approach based on facility-specific factors where a water quality correlation has been demonstrated and justified. Title 40 of the Code of Federal Regulations section 122.44(d)(1)(vi)(C) provides for establishing water quality-based effluent limitations based on indicator parameters. There is also precedent for this approach in the federal Pretreatment Program where regulations allow surrogate pollutant sampling in certain circumstances to calculate removal credits.

The indicator parameter should be a regulated parameter with demonstrable correlation to the pollutant of concern. The other parameters for which the indicator parameter stands should be receiving the same degree of treatment as the indicator parameter. Monitoring for the other parameters may not be eliminated entirely. U.S. EPA's Central Tenets for NPDES permitting and regulations, 40 Code of Federal Regulations, section 122.44(i), require dischargers to monitor all limited pollutants and report data at least once a year. The compliance history of the facility should also be a consideration. If the treatment method at a facility is appropriate and achieving high pollutant removals on a consistent basis, indicator monitoring may be considered.

The use of indicator parameter monitoring is appropriate where the applicable water quality standards are written in terms of the parameter which will be monitored. For example, where the Basin Plan contains water quality objectives for turbidity and not for TSS, sampling for turbidity in the receiving water may be required for compliance monitoring and as a surrogate for TSS. However, if there is an effluent limit for TSS, effluent sampling for TSS may still be required.

Proposed Water Board Staff Action

1. Regional Water Board staff should work with dischargers during the individual permit reissuance process to determine if a technical justification exists to use indicator parameters to regulate other constituents and to implement corresponding indicator or surrogate monitoring as appropriate.
2. Staff should identify general parameters that can be correlated with one another and develop standard approaches to authorize surrogate sampling.

D. Stakeholders' Recommendation 4: Eliminate Irrelevant and Unnecessary Reports

Inclusion or exclusion of reports or studies should be based on discharge-specific issues. Permits should provide the discharger the option to conduct collaborative studies and/or prepare collaborative reports. The State Water Board should adopt a resolution that provides specific direction to Regional Water Boards. The resolution should include detailed criteria for when reports and/or studies should be required and when collaboration is appropriate.

Subcommittee's Response

The subcommittee supports the concept of collaborating to prepare required reports and studies on non-facility specific issues where sharing of technical resources, trained personnel, and associated costs can enable such reports and studies to be completed timely.

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Collaboration also facilitates better decision making on beneficial use protection of the state's surface waters.

The subcommittee concurs with the State Water Board providing general direction regarding increased collaboration of discharger resources for necessary studies and reports. However, the subcommittee does not recommend that the State Water Board adopts a resolution that specifies when reports should be required. The subcommittee suggests that the State Water Board urge all regional water boards to provide evidence and justification in the permit fact sheet that supports required studies and reports. The need for special reports typically stems from the need to assess receiving water bodies, reduce pollutant loads, or develop standards.

Proposed Water Board Staff Actions

1. Water Board staff should work with the discharger during each individual permit reissuance process to determine which reports may be submitted through a coalition, association, or regional effort.
2. The subcommittee should work with regional water board staff to identify when alternatives to submission of reports are appropriate and to ensure a required report or information is submitted.

E. Stakeholders' Recommendation 5: Facilitate Use of Regulatory Tools by Making Processes More Clear and Consistent

The State Water Board should adopt a resolution that provides specific direction to the Regional Water Boards that includes consistent guidelines for how water effect ratios, translator studies, mixing zones, or dilution credits can and should be used. The NPDES stakeholders provided examples of the use of regulatory tools (such as water effect ratios, translator studies, mixing zones, and dilution credits) that may have been inappropriately implemented, resulting in stringent performance-based effluent limitations even in circumstances where less-stringent limitations were protective of water quality.

Subcommittee's Response

The subcommittee supports the concept of providing ongoing consistent training for permit writers on the use and development of water effect ratios, translator studies, mixing zones, and dilution credits. In addition to varying guidance implemented by Regional Water Boards, the State Water Board has provided precedential water quality decisions regarding mixing zones, dilution credits, and limited use of the full assimilative capacities of receiving waters. Training and guidance can also be developed to provide a clear understanding of anti-backsliding and anti-degradation as they relate to relaxation of existing effluent limitations based on new information and existing ambient conditions. Guidance should not be developed to restrict the discretion allowed to the Water Boards under existing plans, polices, laws, and regulations to provide appropriate protection to water quality.

The subcommittee recommends an internal evaluation of whether performance-based effluent goals or triggers should be implemented in lieu of performance-based effluent limits. The evaluation should identify situations where performance-based goals or triggers are appropriate. A similar recommendation was included in the June 17, 1994 External Program Review Report submitted to the State Water Board and assembled by a Task Force that included Heal the Bay, the League of Conservation Voters, and the Deputy Division Director of the Water Management Division at U.S. EPA Region 9. The Task Force recommended that performance-based goals, rather than limitations, be used to maintain the incentive for future voluntary improvement of water quality wherever feasible. The subcommittee recommends that the Office of Chief Counsel evaluate whether implementation of

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performance based goals and triggers, in place of existing performance-based effluent limitations, will satisfy anti-backsliding and/or anti-degradation requirements.

Proposed Water Board Staff Actions

1. Water Board staff should work with stakeholders to ensure that permit writers have access to existing guidance and training tools that provide a common understanding of water effect ratios, translators, and mixing zones. The subcommittee should also work with stakeholders to provide permit writers additional guidance and training tools so that dilution credits can be established consistently throughout the state.
2. Water Board staff should lead an internal evaluation regarding the implementation of performance-based goals or triggers in lieu of performance based effluent limits. Based on the results, the subcommittee should make follow-up recommendations.

F. Stakeholders' Recommendation 6: Use an Economic Checklist

Regional Water Board staff should use an economic checklist for major changes to monitoring and reporting programs and special study requirements for individual and general permits.

Subcommittee's Response

The stakeholder proposal regarding the use of an economic checklist is intended to serve as a pilot study of an approach designed by stakeholders to account for permitting compliance costs, effectiveness of proposed requirements in improving water quality, and potential to reduce the costs of compliance. As such, the stakeholder proposal relates to development and piloting of an economic checklist that is primarily focused on guidance development, and not necessarily intended to address individual permitting circumstances.

The Water Boards are not specifically required to conduct a "benefits" or "effectiveness in improving water quality" analysis as is suggested by the stakeholders' recommendation.

Proposed Water Board Staff Actions

State Water Board permitting and planning staff will coordinate with stakeholders during the development of plans and policies to address the cost of compliance with NPDES permits. If a checklist is developed and implemented, its use should be limited to gathering information required by the Water Code or other applicable law or policy when establishing water quality objectives in water quality control plans,¹ prescribing waste discharge requirements,² or investigating water quality.³

G. Stakeholders' Recommendation 7: Implement a Phased Approach to Total Maximum Daily Loads (TMDLs)

The stakeholders recommend that phased approaches encouraging pollution prevention and source control be built into implementation policies and programs for new water quality objectives and TMDLs. The phased approach should incorporate the following elements:

1. TMDLs must appropriately address all discharge sources equitably;
2. All actions to control the particular constituent of concern in the watershed must be fairly and comparatively evaluated on a cost versus benefit basis to develop plans that yield the best use of all public resources;

¹ Water Code section 13241.

² Water Code section 13263.

³ Water Code section 13267.

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3. Public outreach and exposure reduction efforts should incorporate a proportional cost sharing methodology based on the amount of the constituent contributed by individual dischargers;
4. Incentives and innovative strategies to reduce loadings should be encouraged, such as an offset program; and
5. There should be a minimum threshold below which point sources should not be required to implement costly monitoring/reporting programs, special studies, and contributions to risk reduction efforts.

Subcommittee's Response

Resolve Item 7 of Resolution 2013-0029 states:

“State and Regional Water Board staffs, working together with the “TMDL Roundtable” and stakeholders, shall evaluate, identify, and report to the State Water Board by March 11, 2015, “best practices” for incorporating provisions in TMDLs to provide for phased implementation and periodic TMDL review consistent with the State Water Board’s TMDL Guidance – A Process For Addressing Impaired Waters in California (July 2005) or, if necessary, improvements to that guidance.

Thus, the subcommittee will work with the TMDL Roundtable and stakeholders to address the full set of proposals pertaining to implementing a phased approach to TMDLs and to examine the approaches suggested by the stakeholders.

Proposed Water Board Staff Actions

1. Continue conducting internal Water Board cross-training among NPDES permit writers and planning staff.
2. Develop procedures for permit writers to coordinate with planning and standards staff to ensure that TMDLs can be clearly implemented in permits.

II. ADDITIONAL SUBCOMMITTEE RECOMMENDATION

Increased Use of General Permits

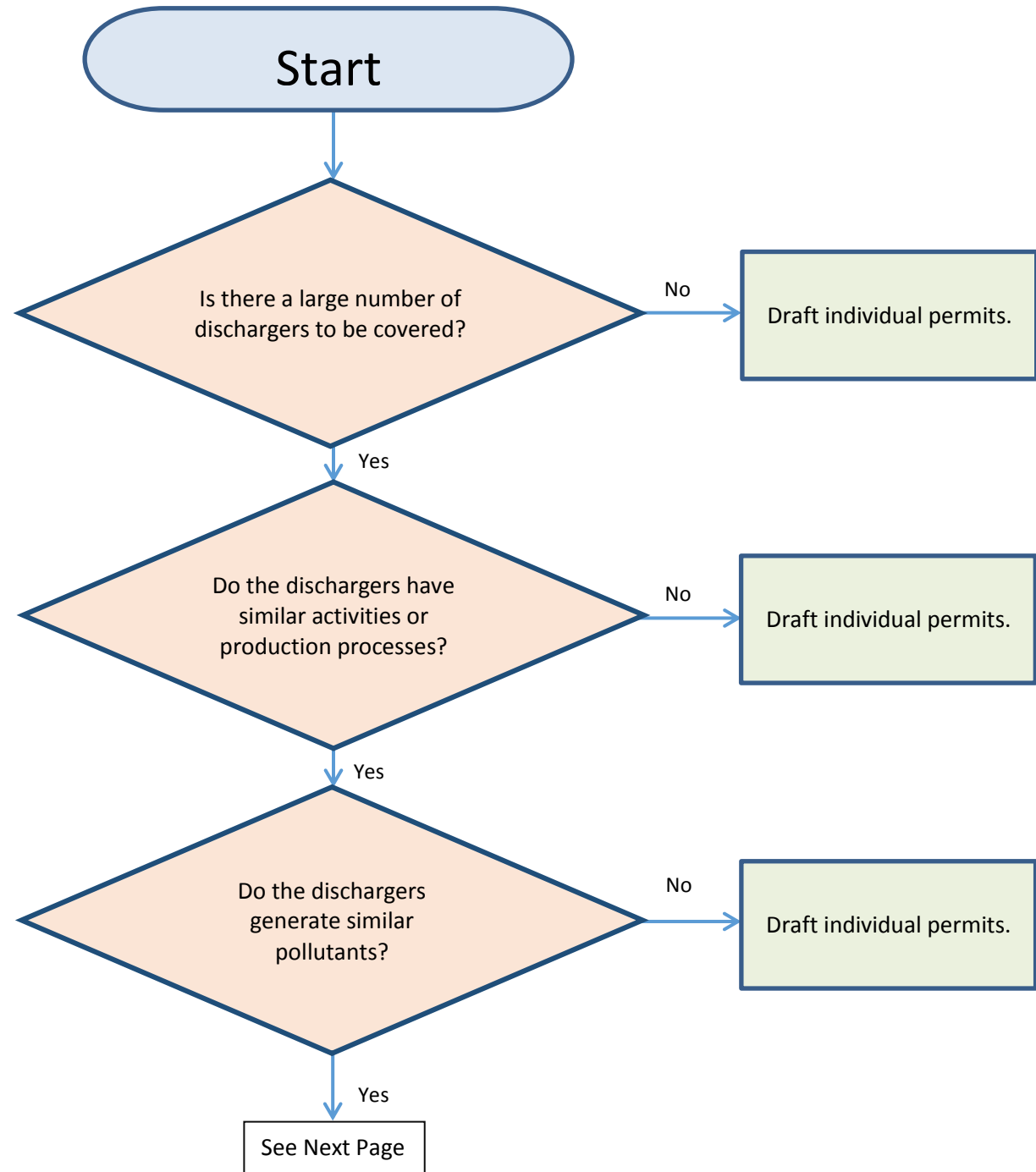
The Water Boards are developing and adopting general NPDES permits for discharges that involve similar waste constituents and water quality considerations. Regional and statewide general permits establish uniform requirements throughout each Regional Water Board region or the state. The uniform requirements allow permit writing staff increased opportunities to identify cost effective monitoring and reporting requirements. Uniform region-wide or statewide requirements provide for compliance cost reductions by allowing dischargers to share monitoring costs through group monitoring programs. In addition, the permit fees associated with enrolling in a general permit are generally less than the permit fees associated with an individual permit. Thus, development of more general NPDES permits will reduce the cost of compliance while protecting water quality from identical or similar categories of discharges. Water Board staff will continue to develop general permits whose fees are significantly less than fees for individual permits.

See Attachments (2)

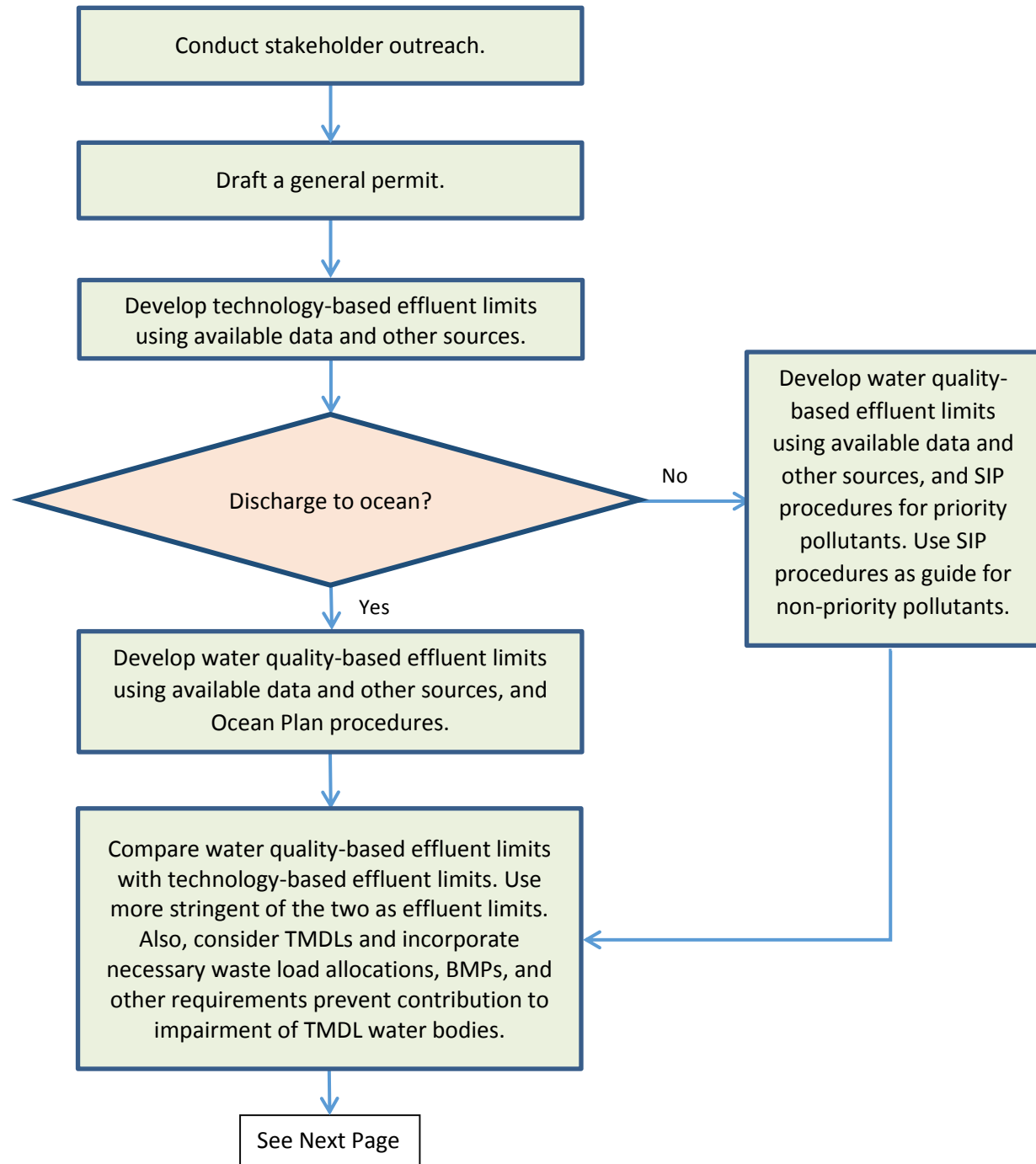
NPDES Permit Writing Flowchart for General Permits

NPDES Permit Writing Flowchart for Individual Permits

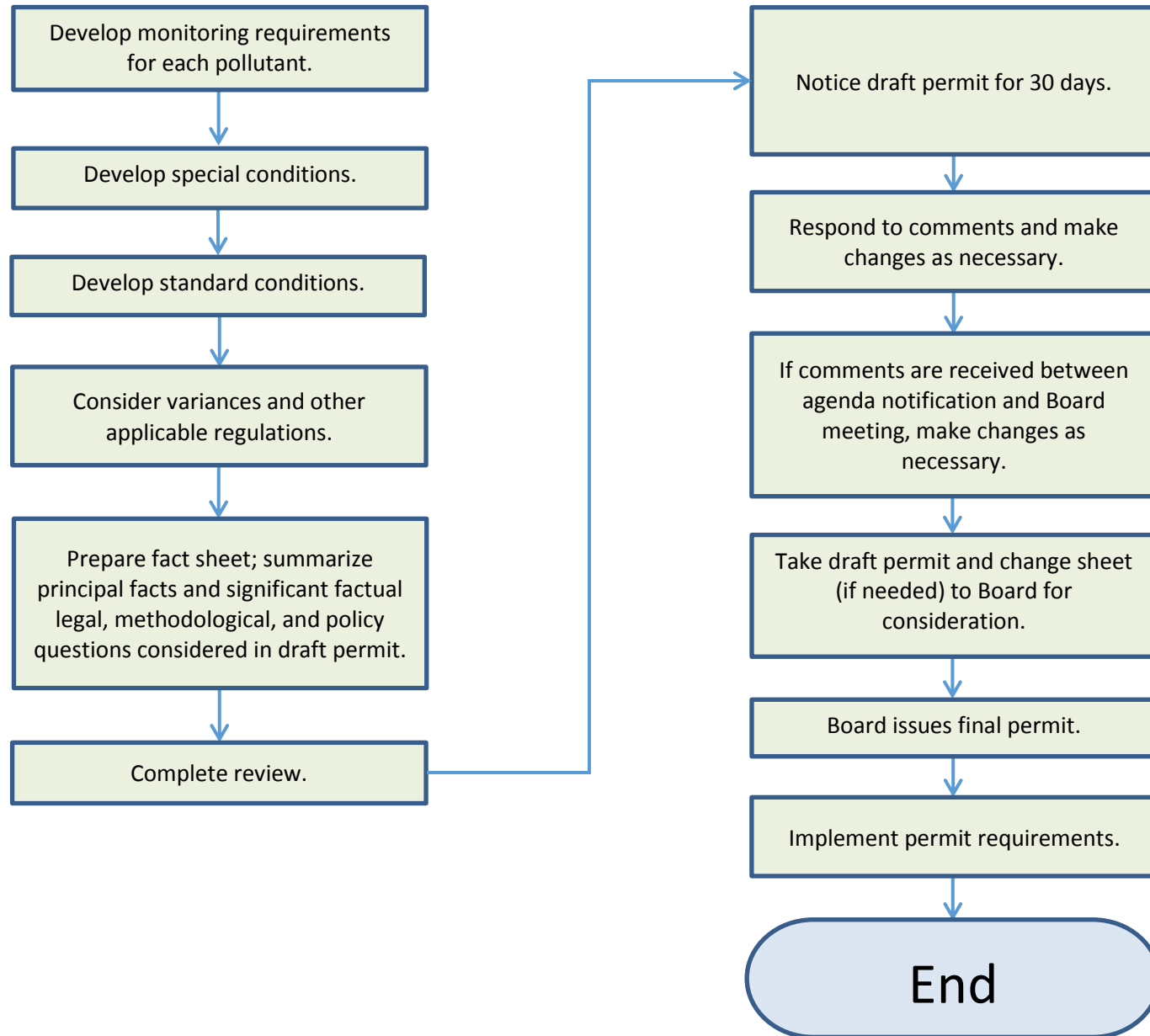
NPDES Permit Writing Flowchart for General Permits



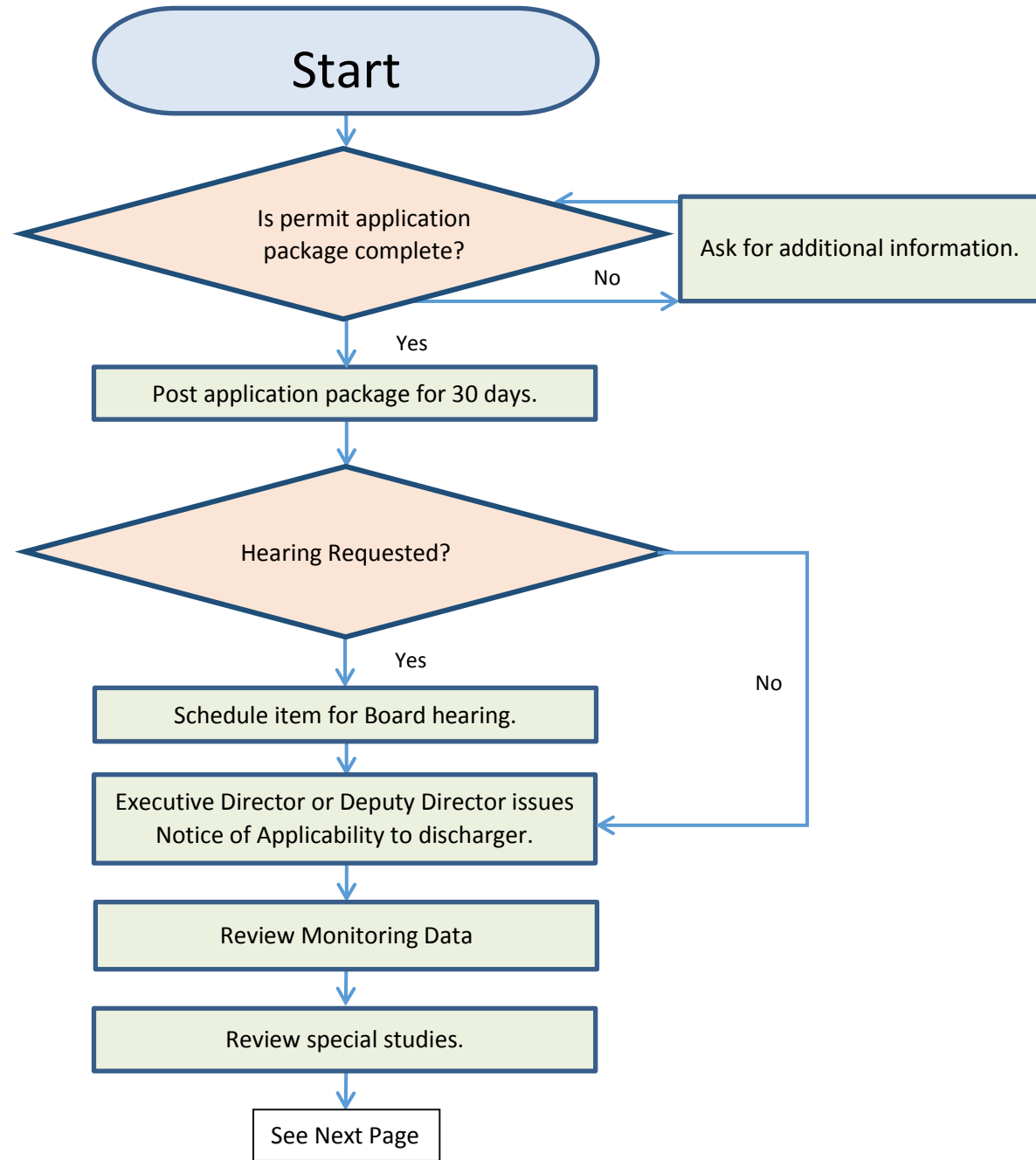
NPDES Permit Writing Flowchart for General Permits



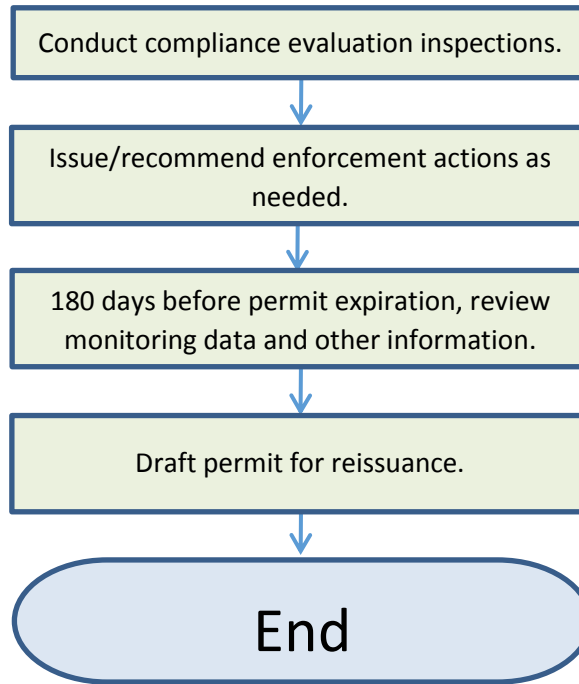
NPDES Permit Writing Flowchart for General Permits



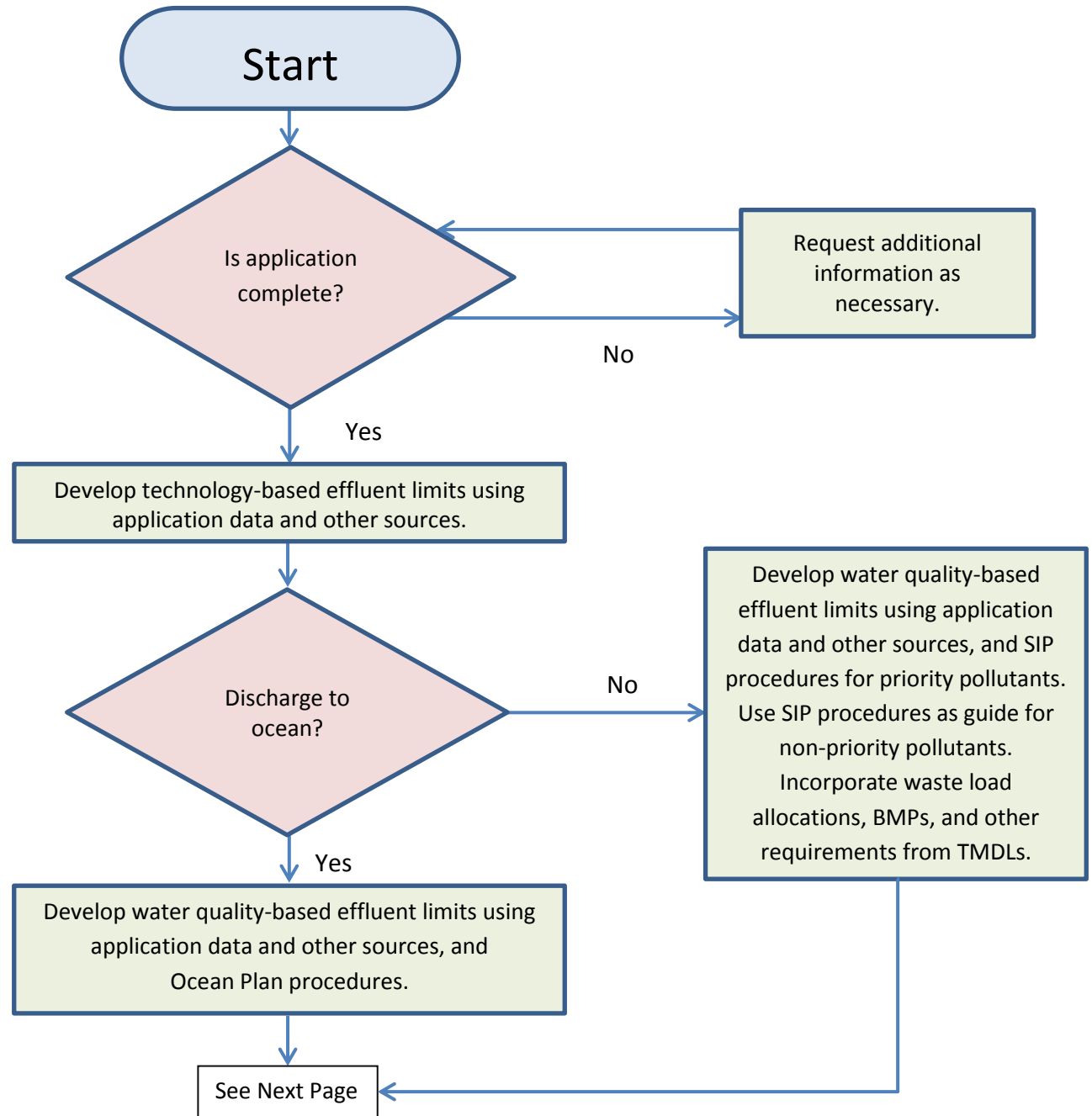
NPDES General Permit Enrollment and Oversight



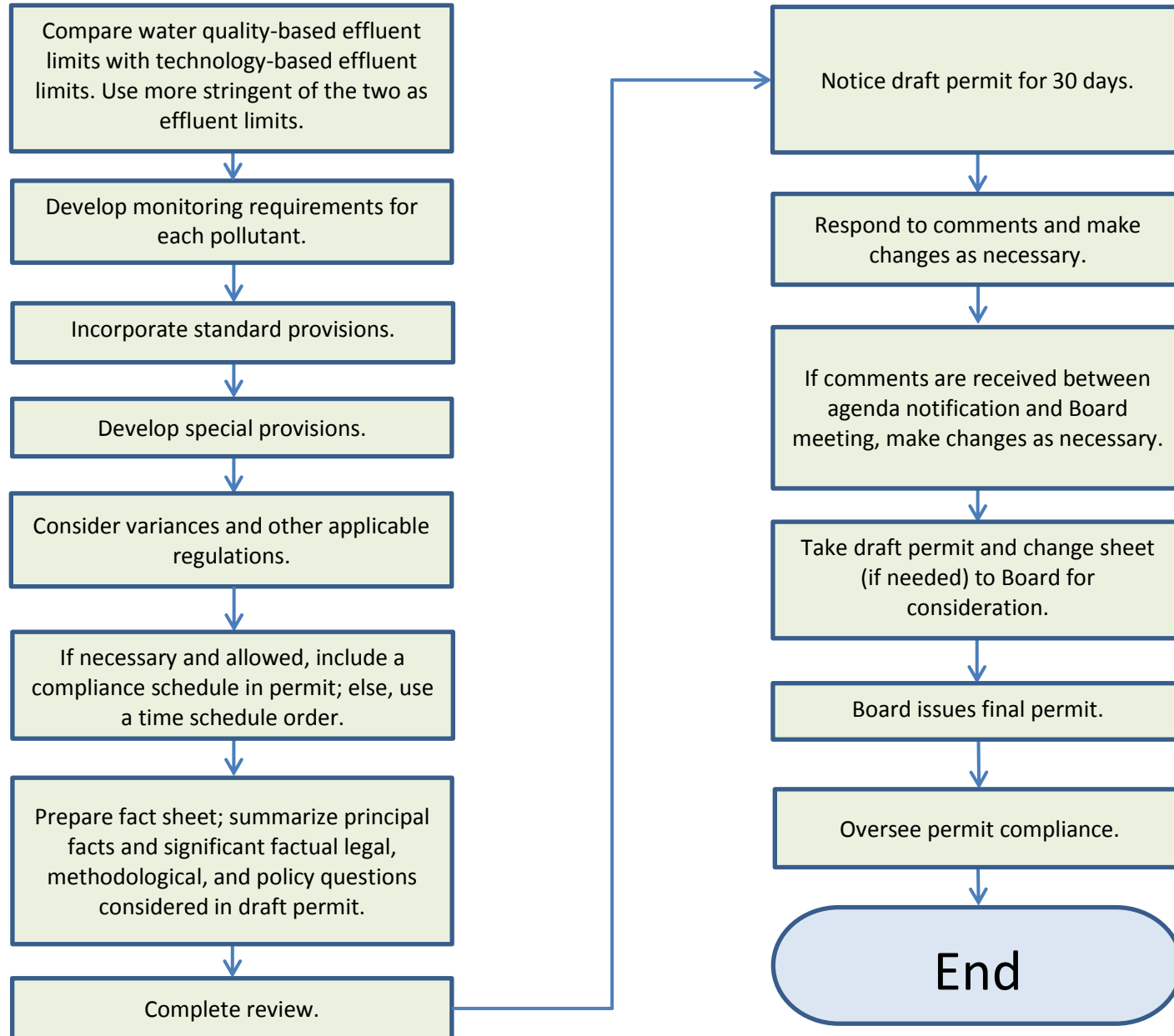
NPDES General Permit Enrollment and Oversight



NPDES Permit Writing Flowchart for Individual Permits



NPDES Permit Writing Flowchart for Individual Permits



NPDES Individual Permit Oversight

